

**LEGO** mindstorms<sup>™</sup>  
EV3

# WACK3M



Model Design, Building  
and Programming Instructions  
by: **Martyn Boogaarts**

1



2

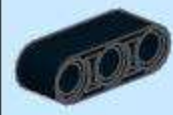
3 1x

1x 1x



3

3



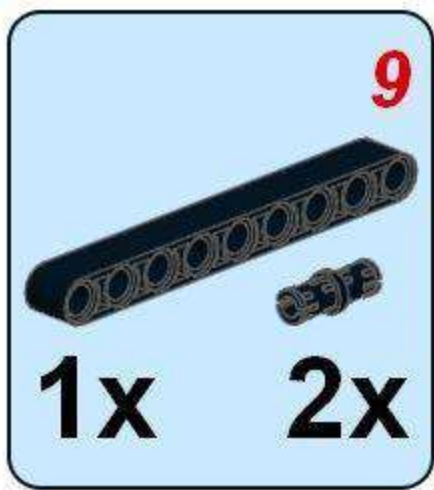
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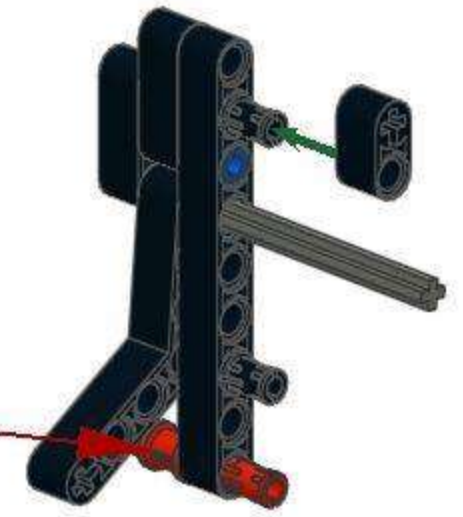
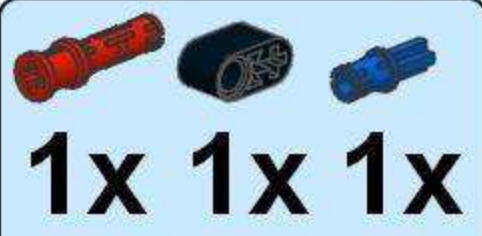
1x



4



5



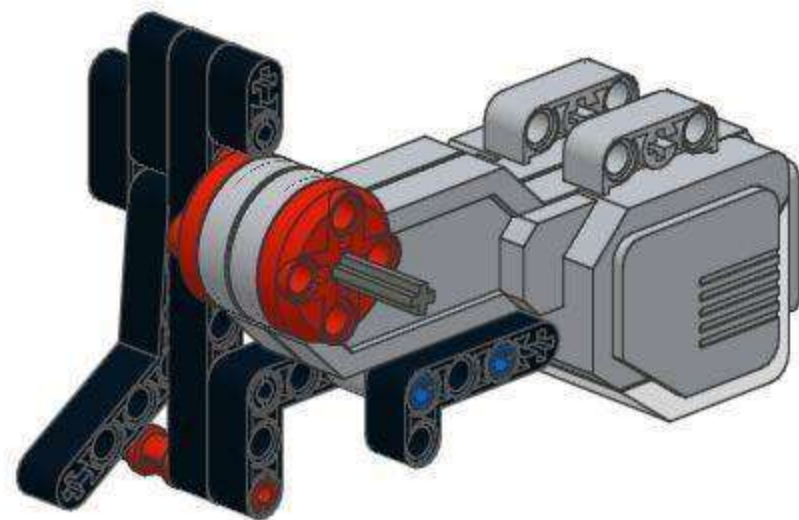
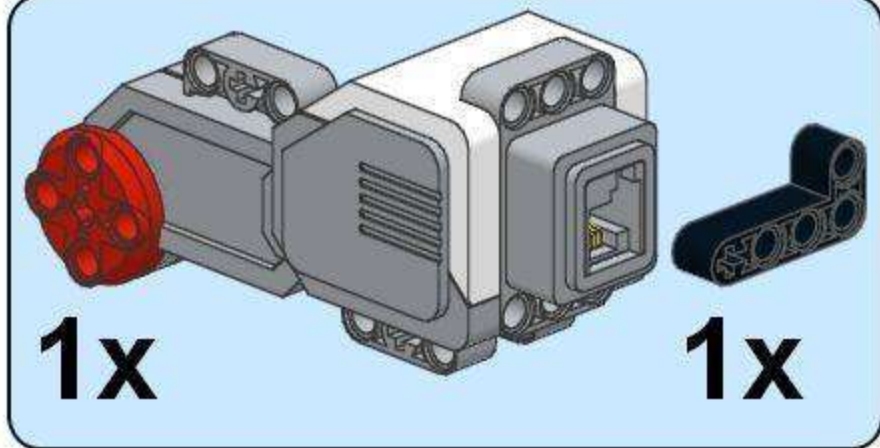
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2x

1x

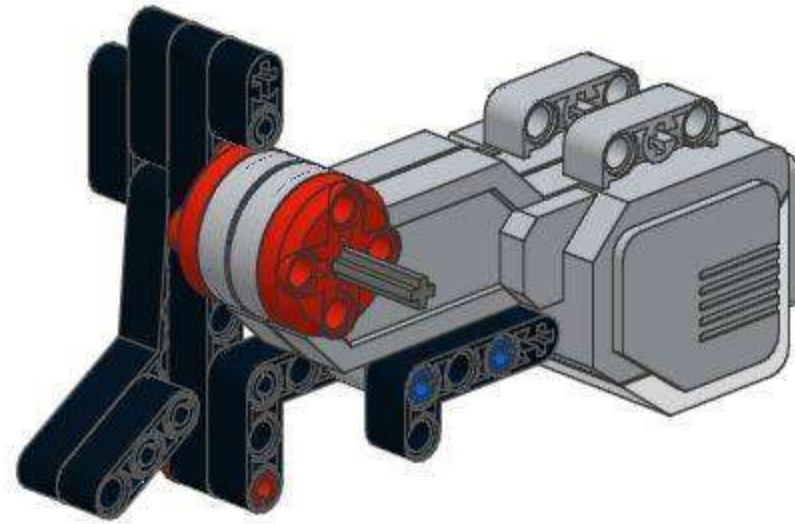


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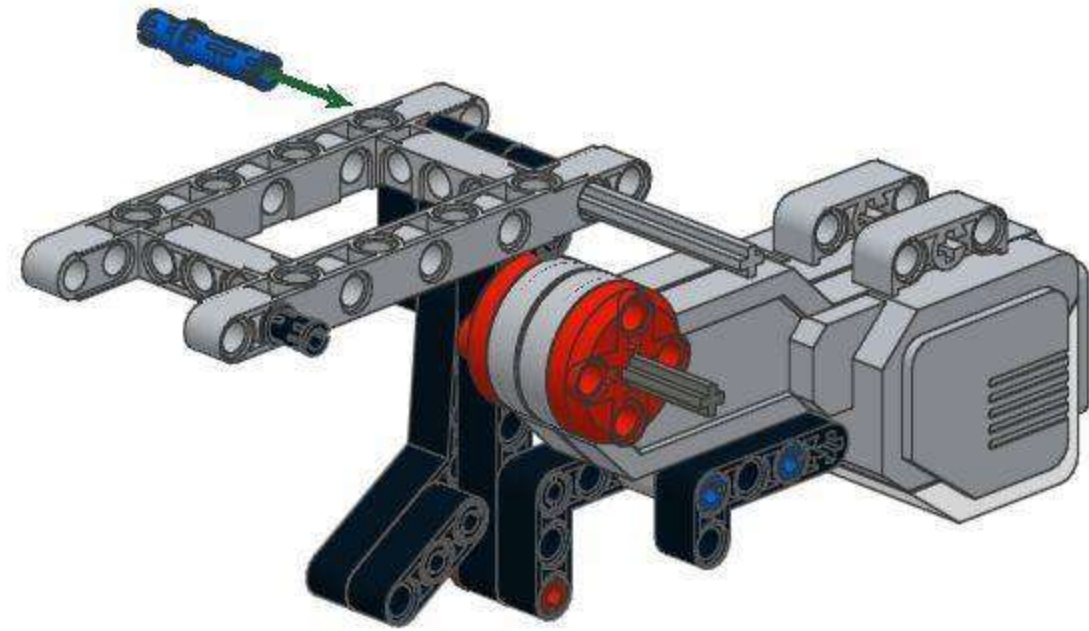
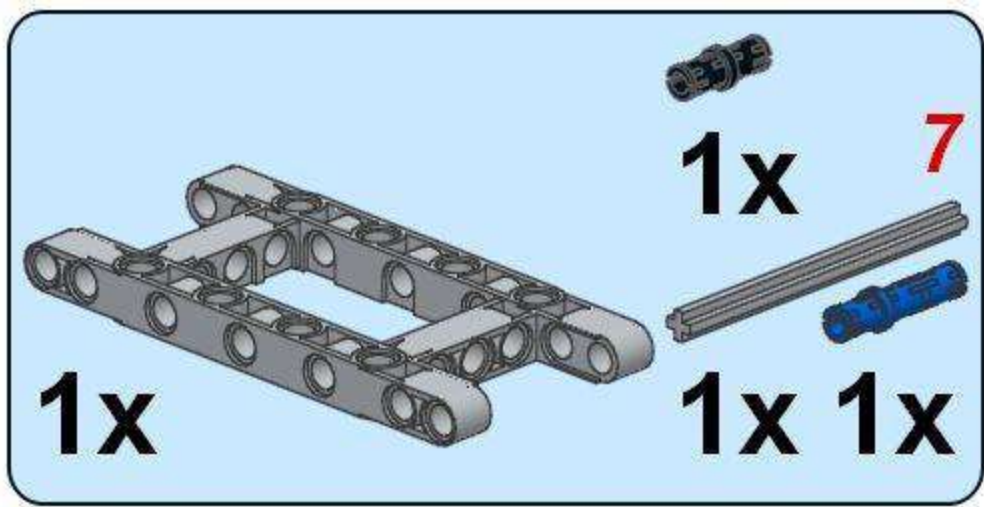




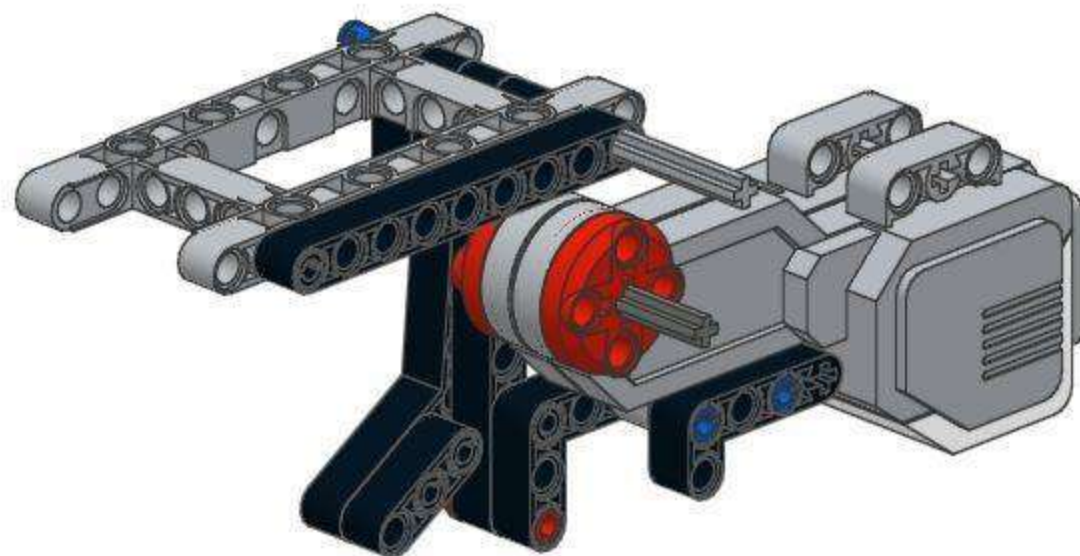
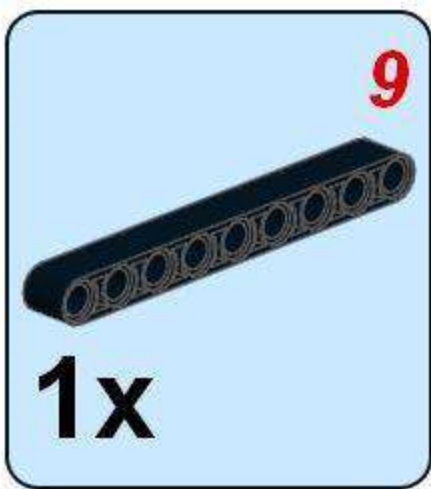
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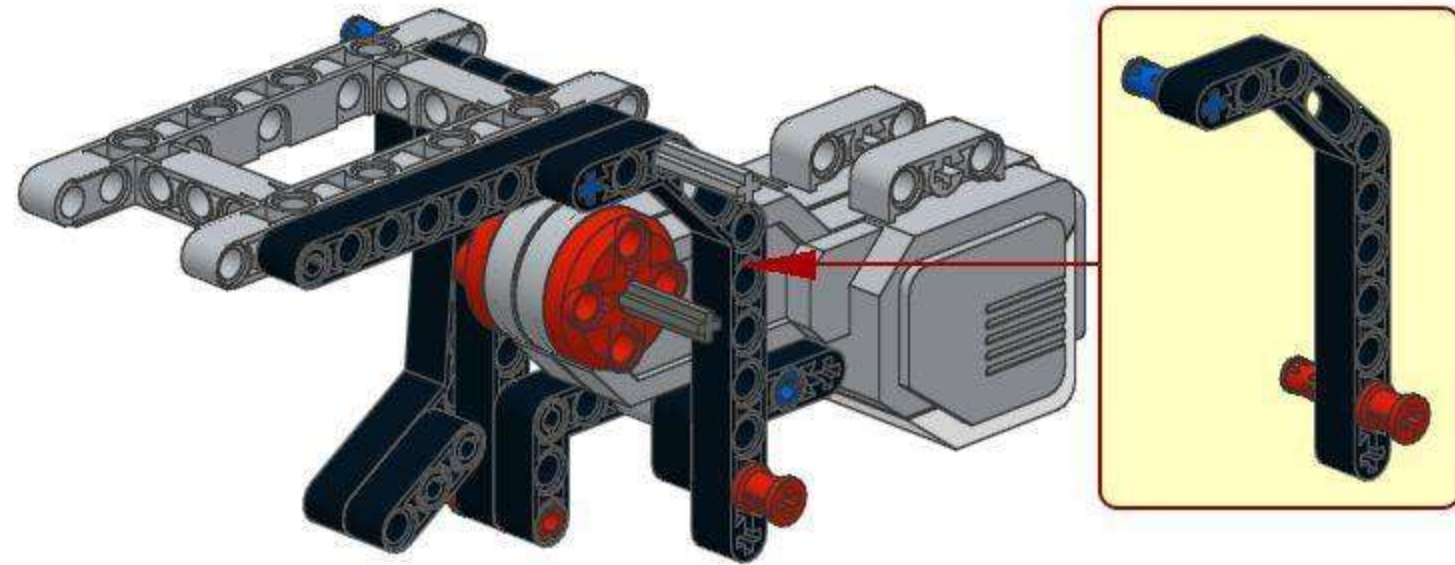
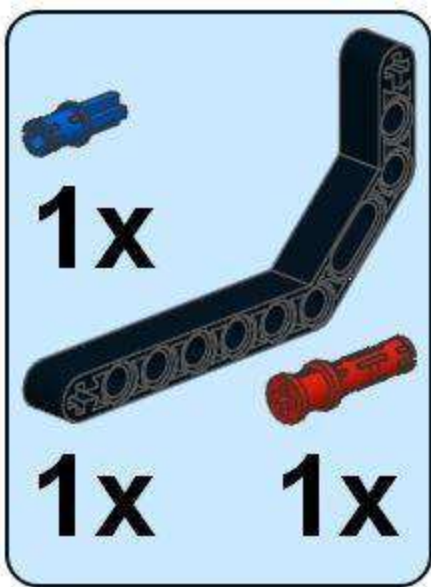
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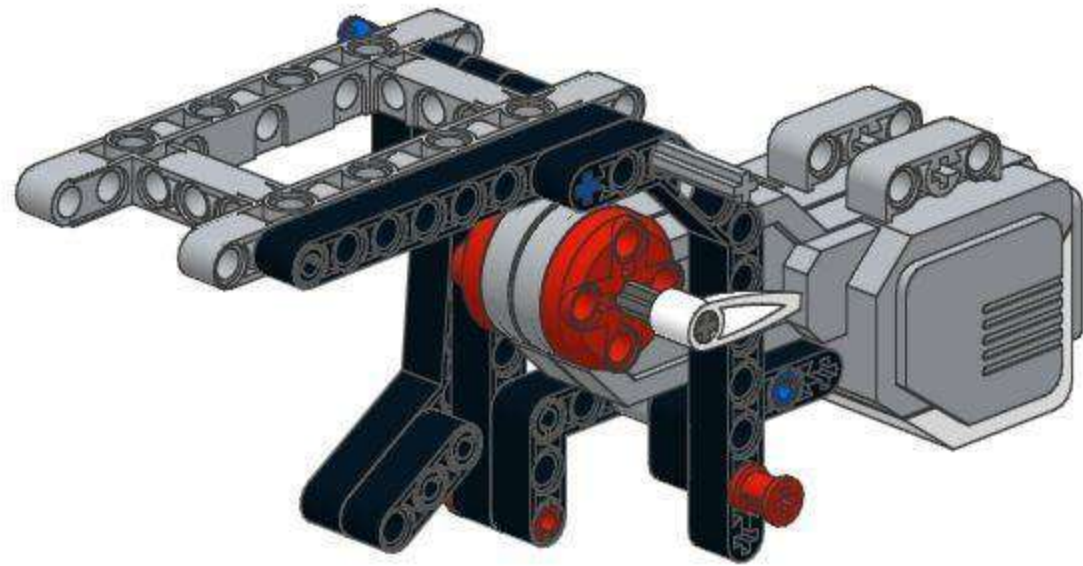
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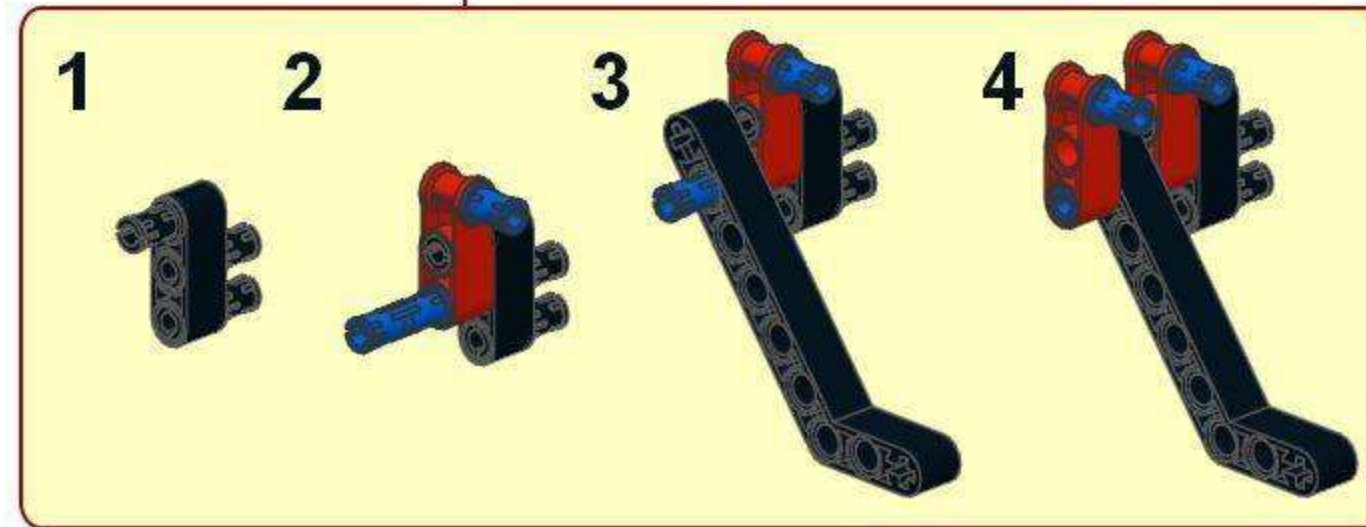
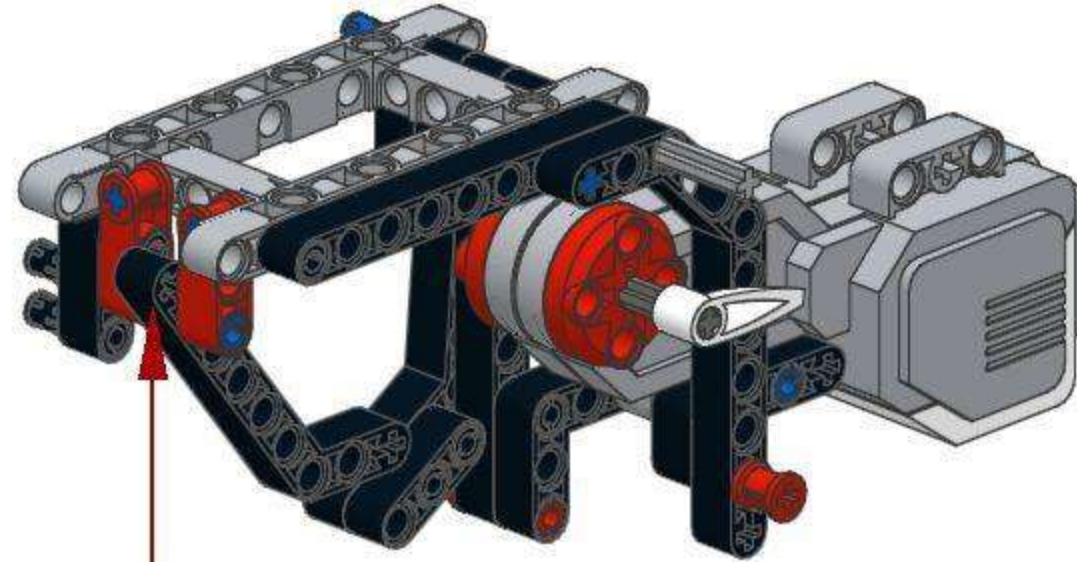
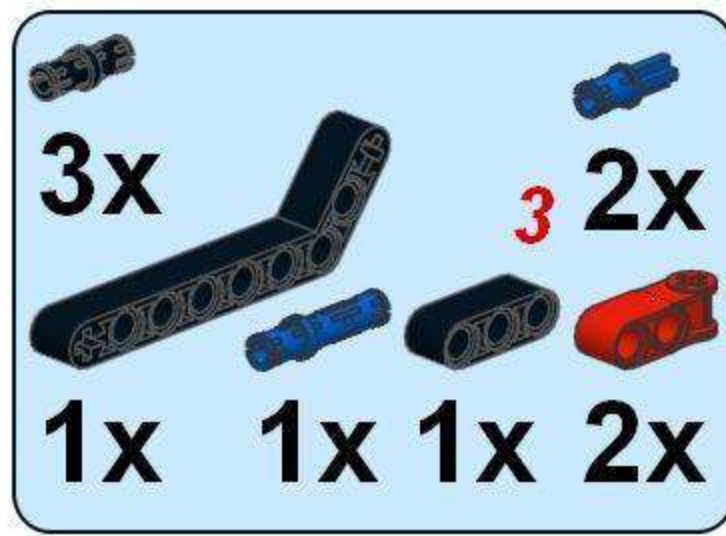
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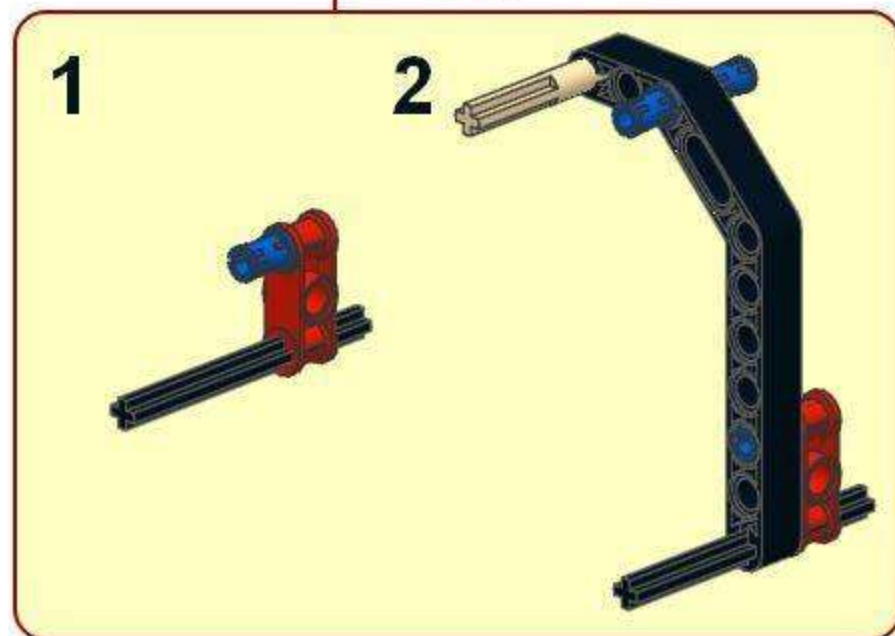
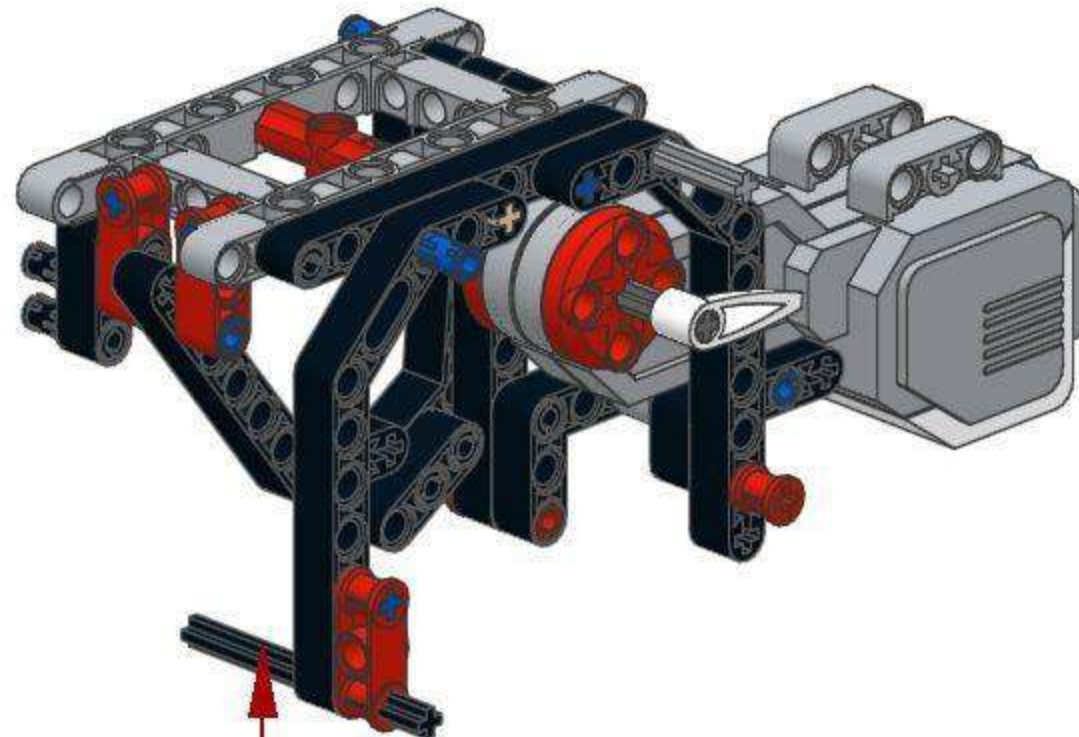
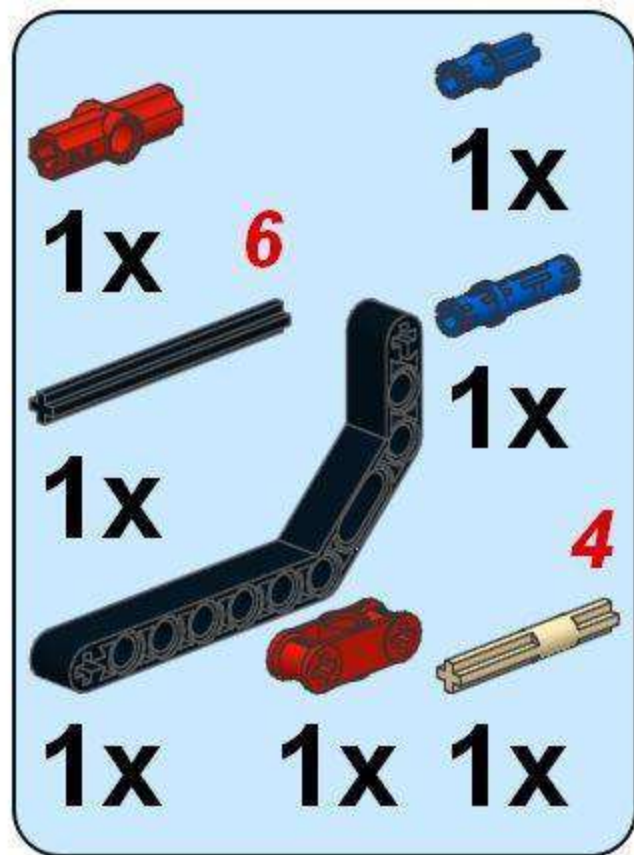
12   
1x






# 13

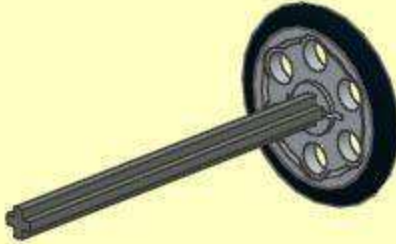
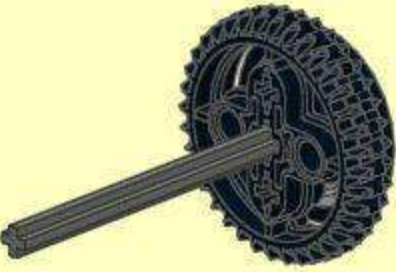



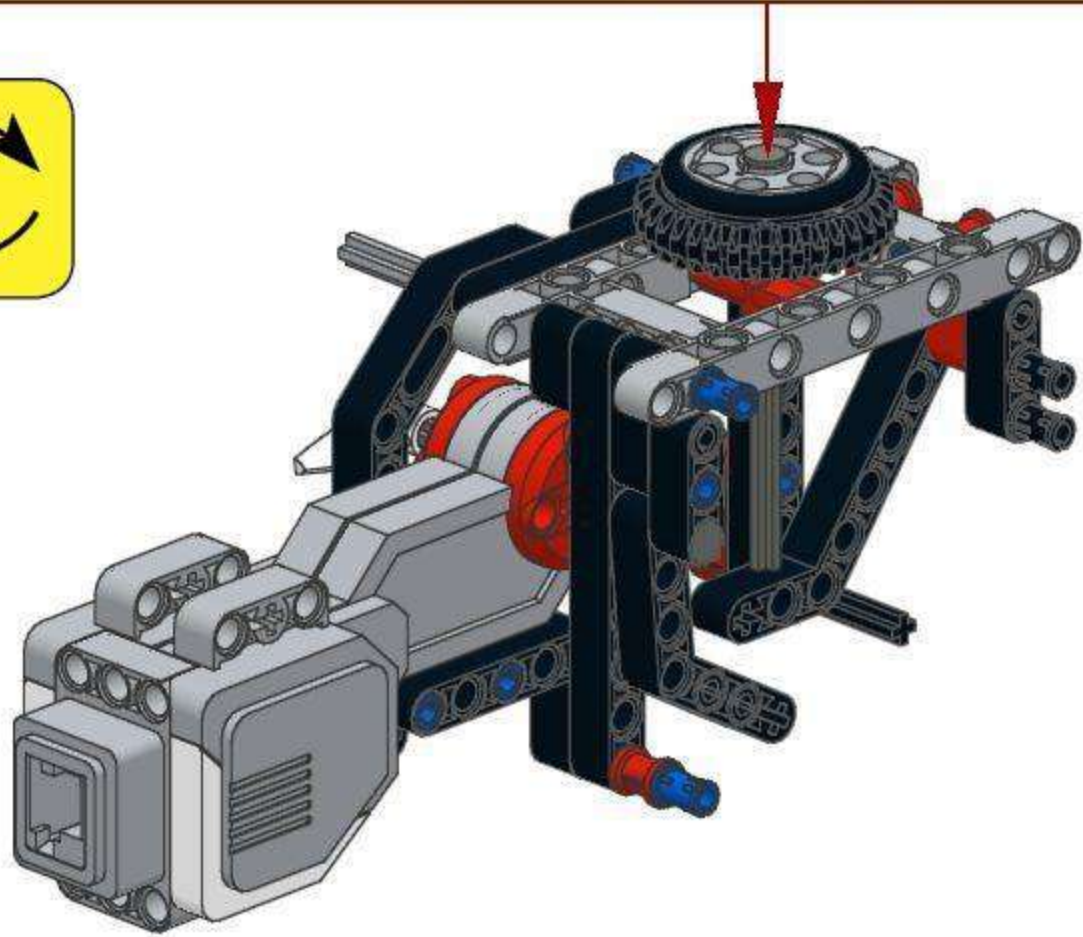
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15

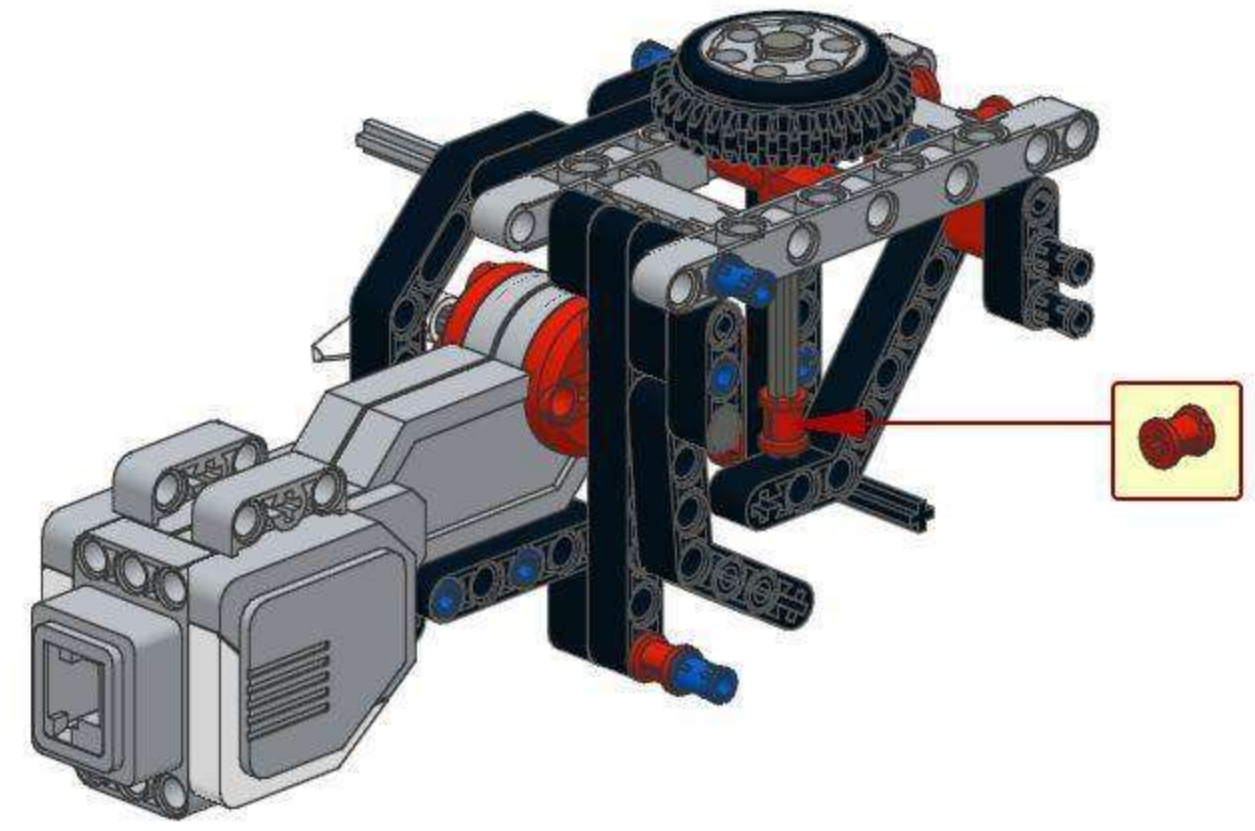
1x  1x   
1x  8   
1x  1x   
1x  1x  1x 

1  2  3 



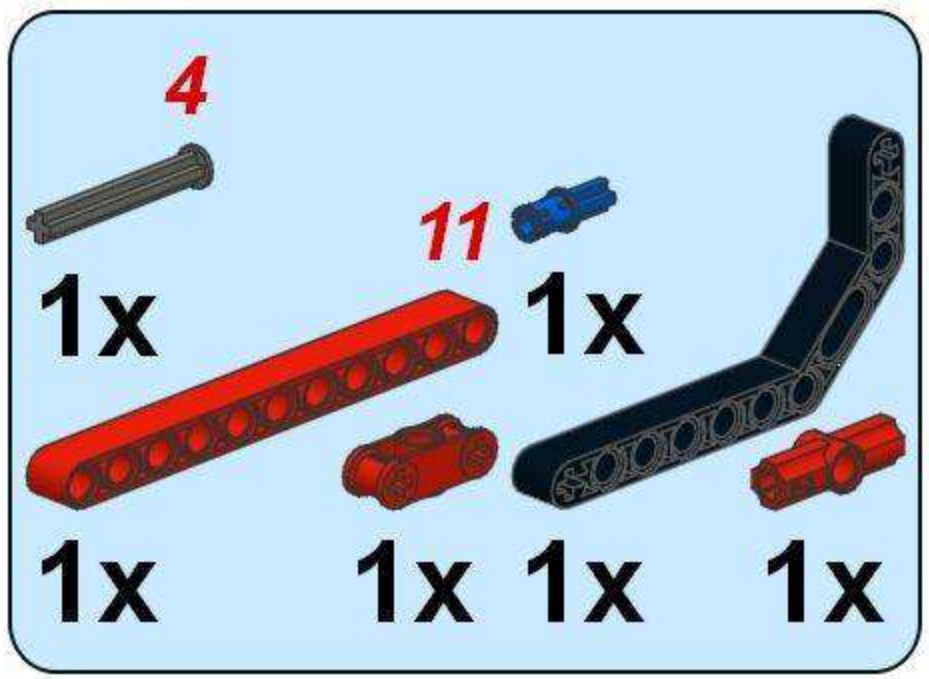


16   
1x

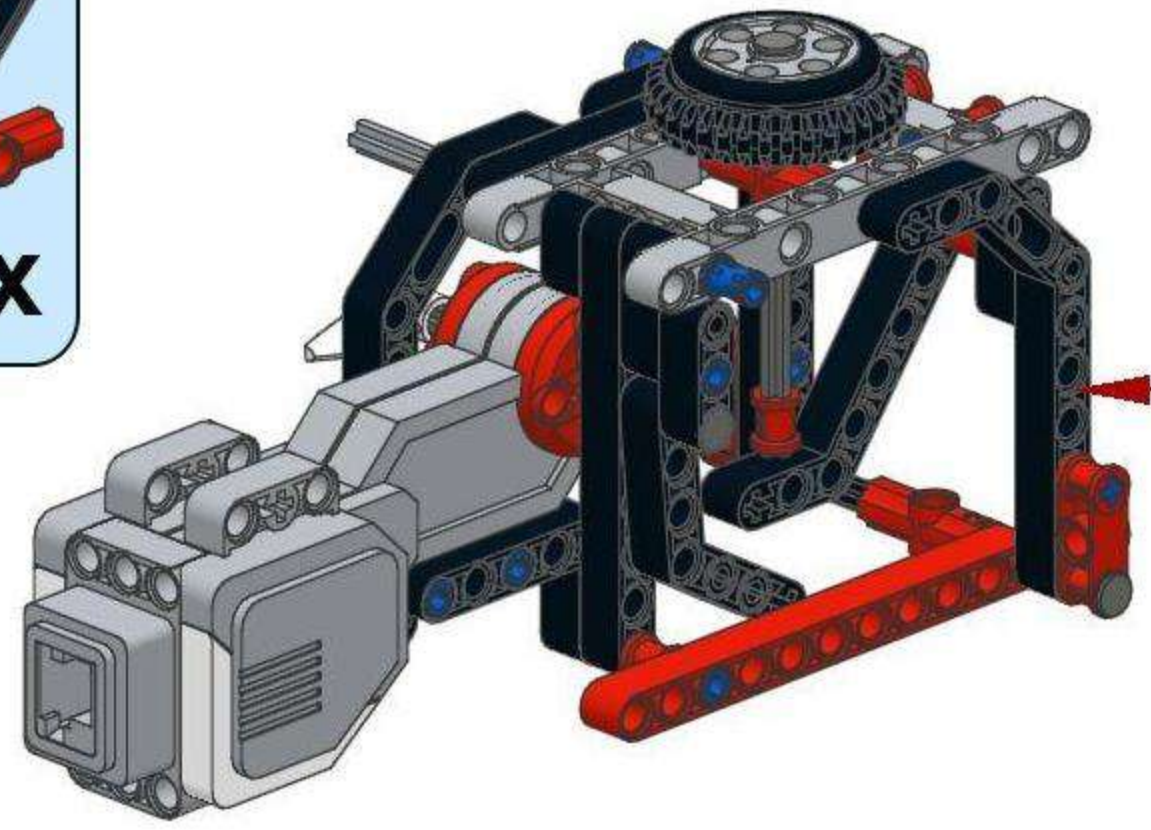


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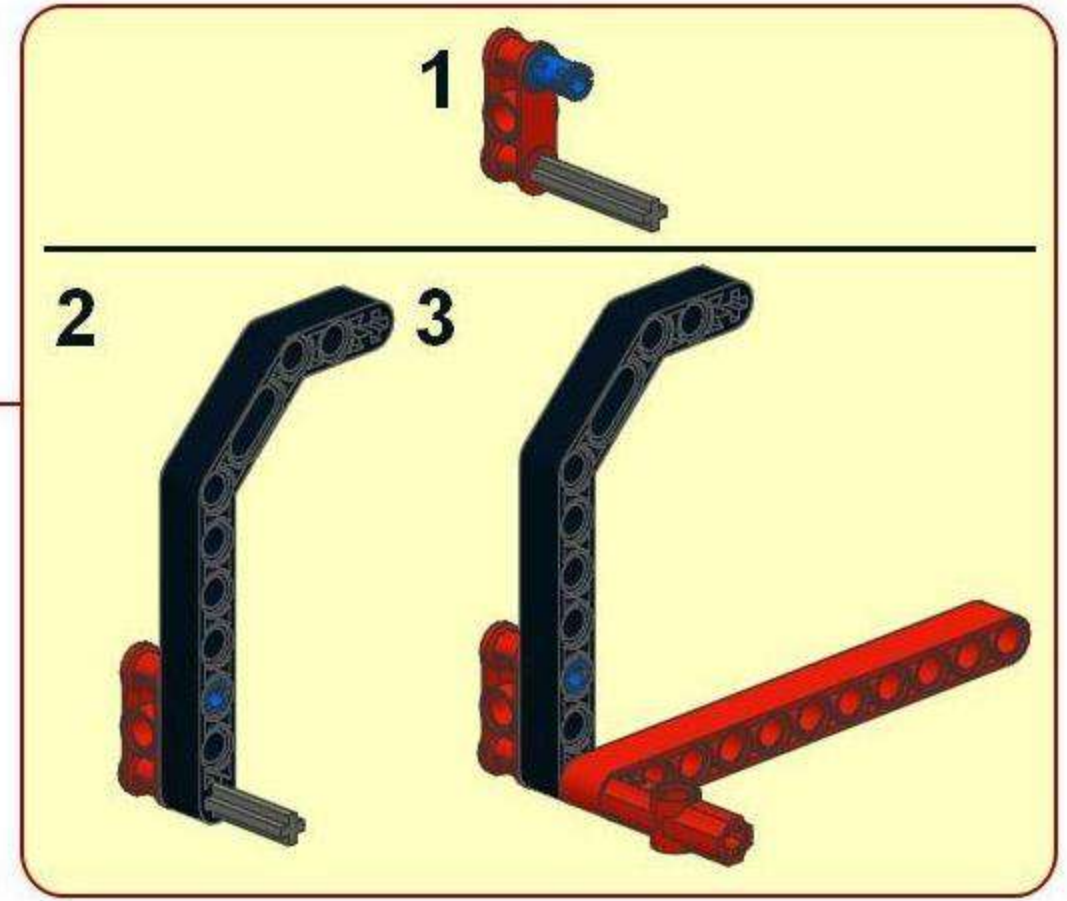
4  
1x  
11  
1x  
1x  
1x  
1x  
1x



A parts list for step 17, enclosed in a light blue rounded rectangle. It lists the following components: 4 grey axles, 1x red 11-hole Technic beam, 1x blue axle pin, 1x red axle bush, 1x black L-shaped Technic beam, 1x red axle bush, 1x red axle bush, and 1x red axle bush. The numbers 4, 11, and 1 are in red, while the others are in black.

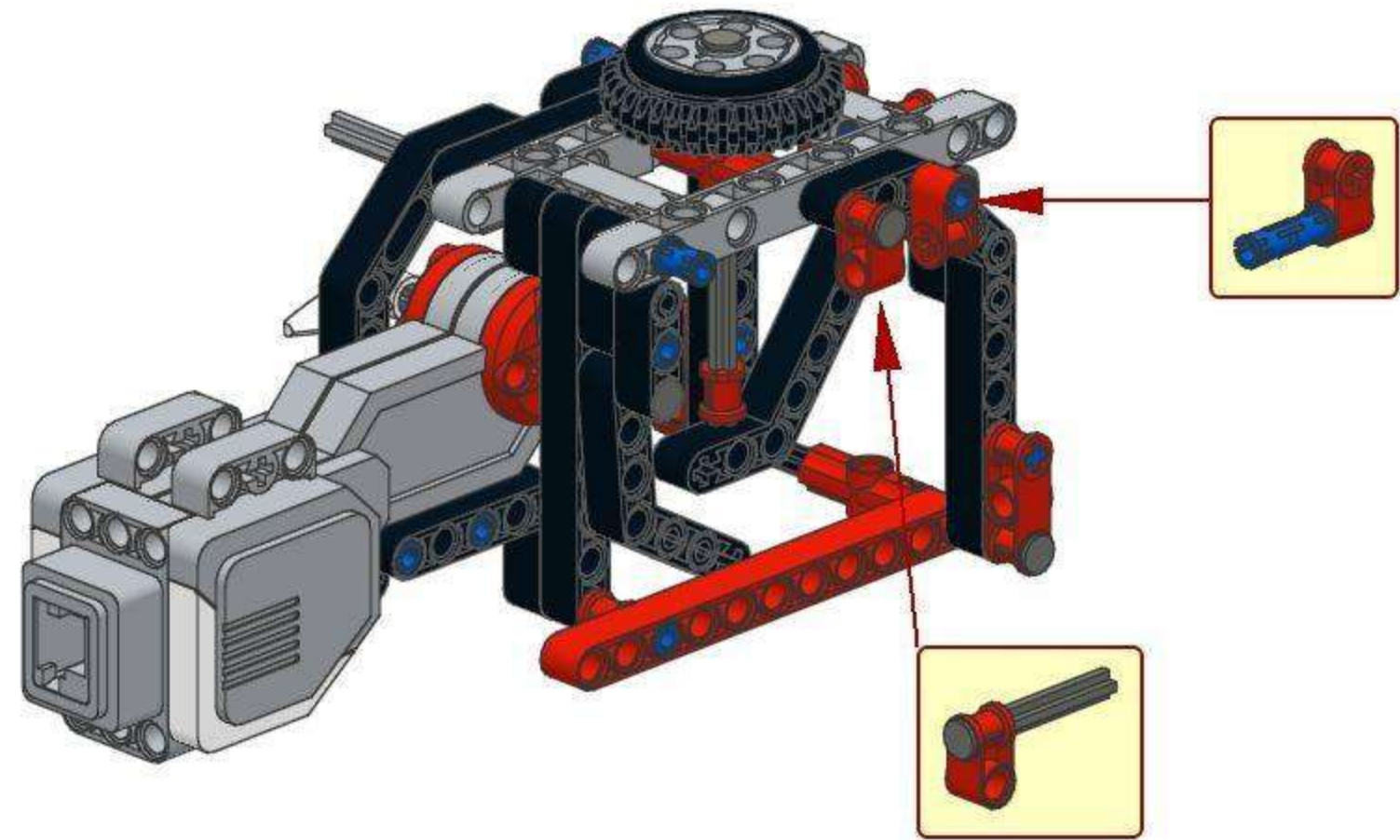
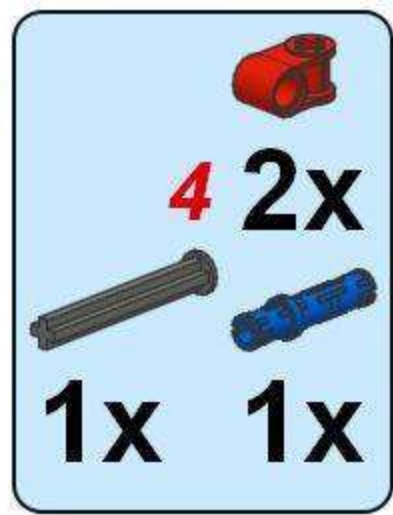


1  
2  
3

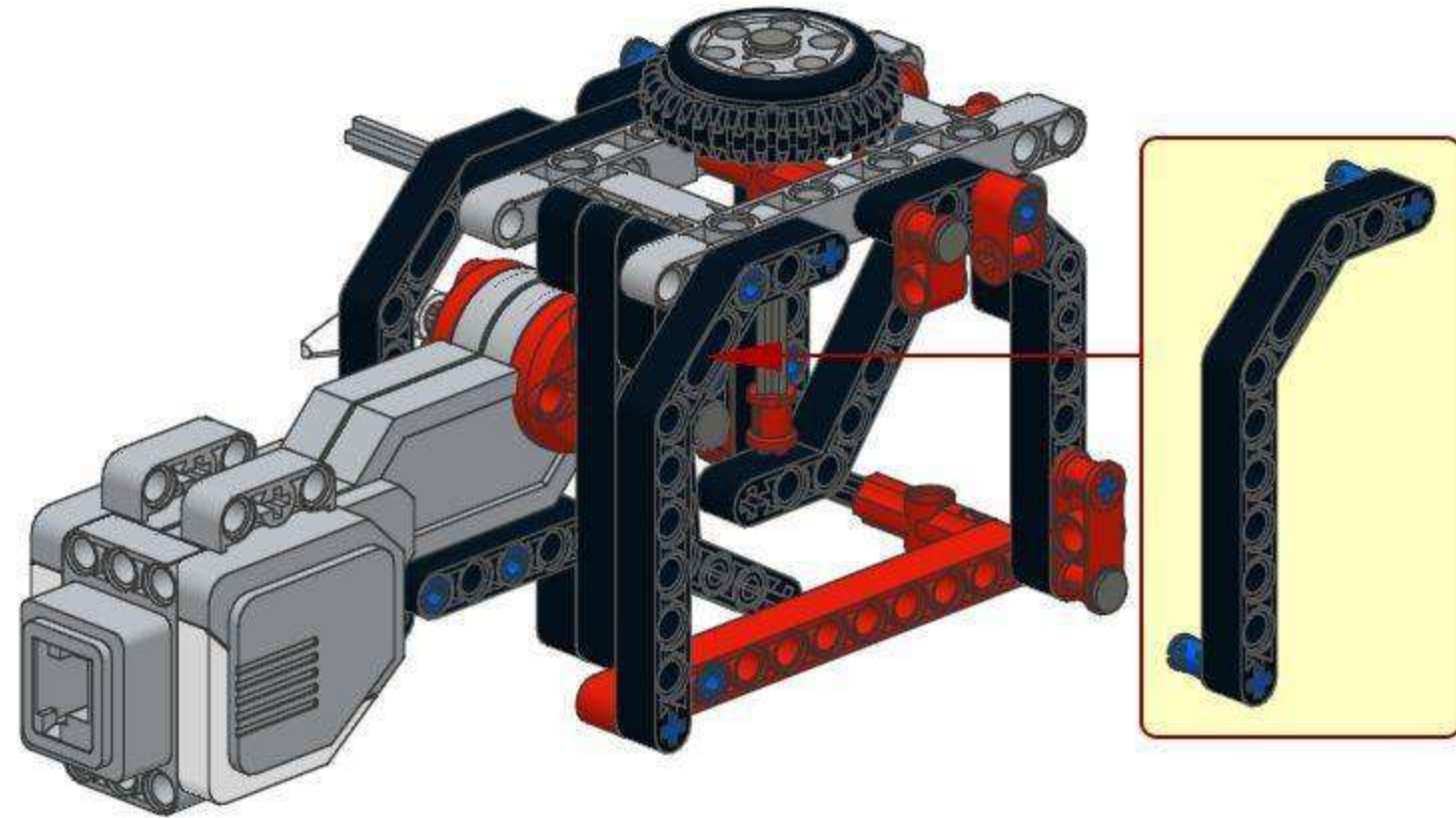
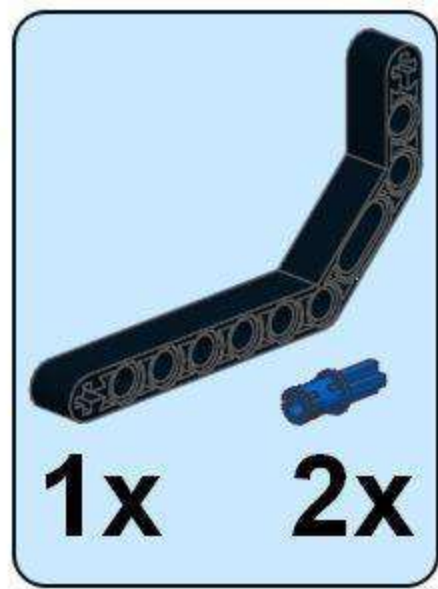


An inset assembly diagram on a yellow background, enclosed in a rounded rectangle. It shows three steps of assembly: 1. A red L-shaped Technic beam with a blue axle pin and a grey axle is shown. 2. The red L-shaped Technic beam is being attached to the bottom of the black L-shaped Technic beam. 3. The red L-shaped Technic beam is fully attached to the black L-shaped Technic beam, forming a larger L-shape.






18

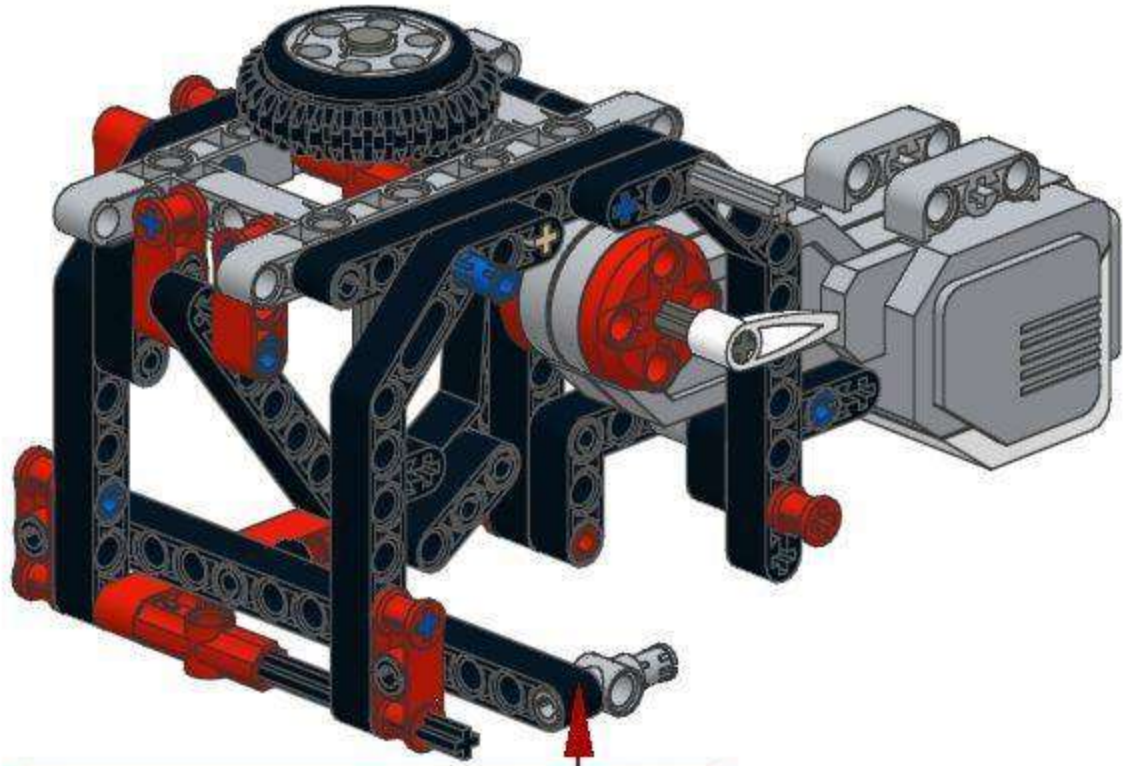


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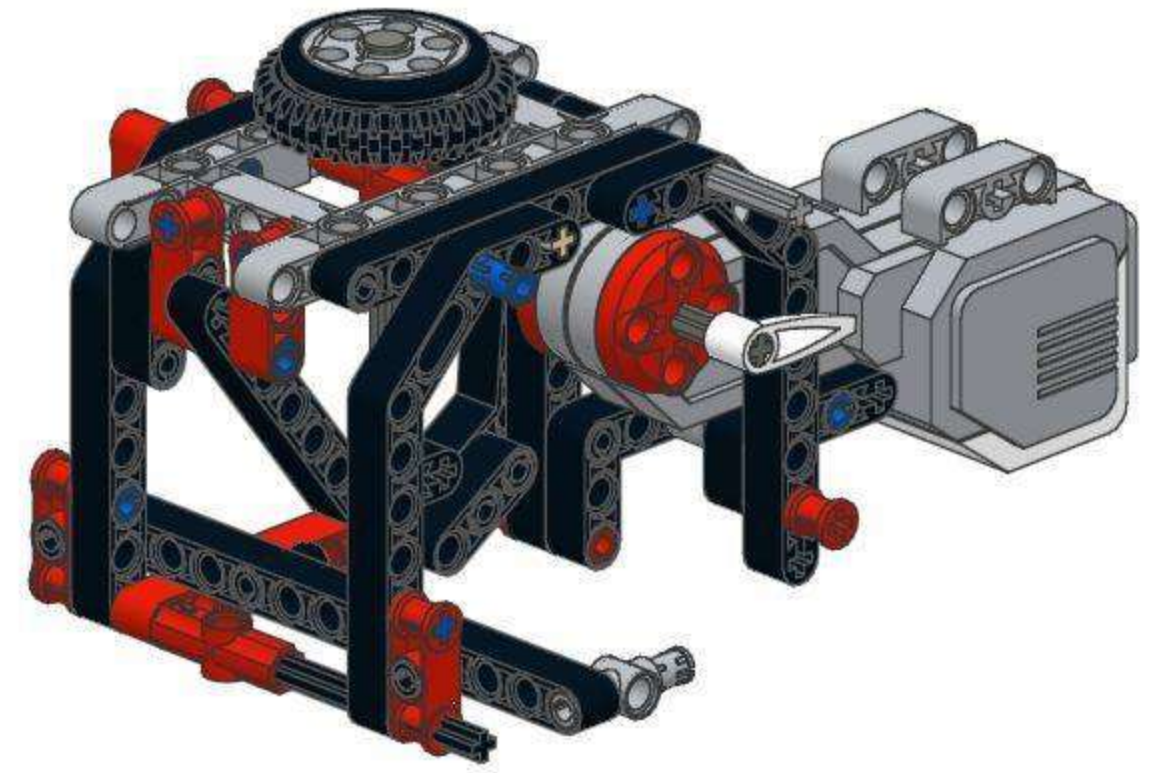


20

- 1x 
- 2x 
- 1x 
- 1x 
- 13 

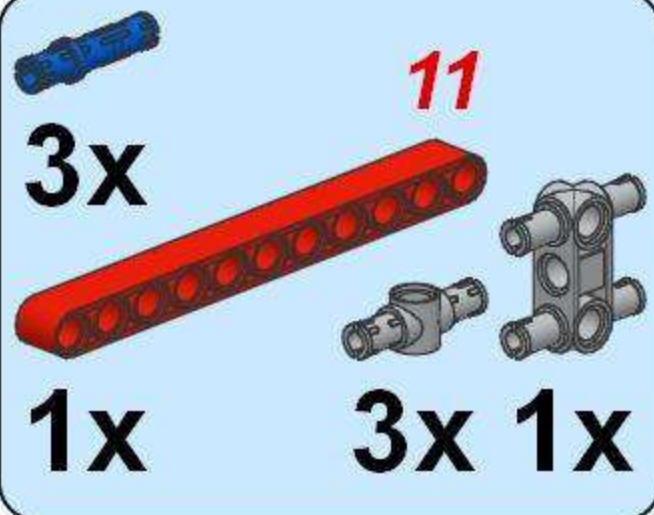


1



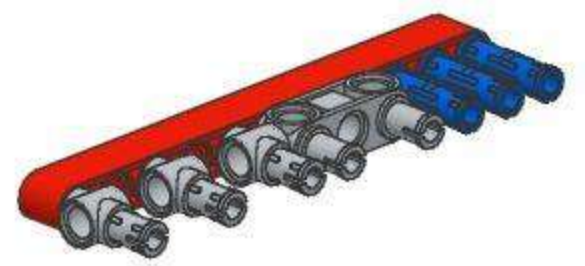


1



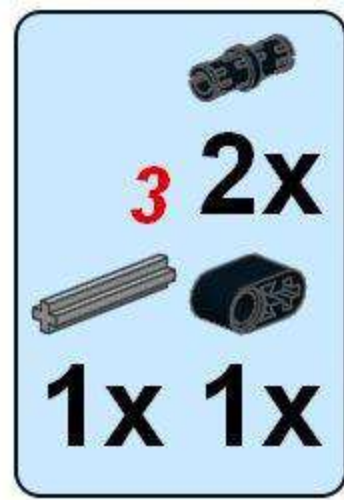
3x  
1x  
11  
3x 1x

This block contains a parts list for step 1. It includes a blue pin (3x), a red Technic beam (1x), a grey Technic axle (11), a grey Technic axle with a stop (3x), and a grey Technic cross (1x).



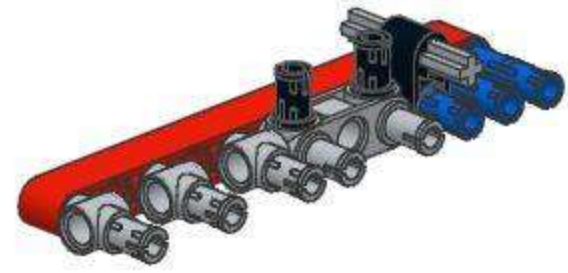


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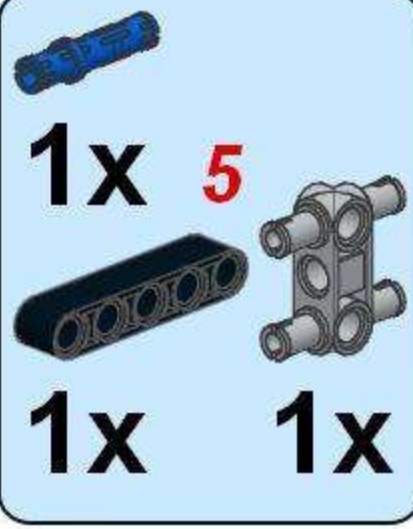


3 2x  
1x 1x

This block contains a parts list for step 2. It features a light blue rounded square background. At the top left is a large black number '2'. To its right, there are four items: a grey axle pin, a grey axle, a grey axle bush, and a black axle bush. The number '3' is placed to the left of the grey axle pin, and '2x' is to its right. Below the grey axle is the number '1x', and to its right is another '1x'.

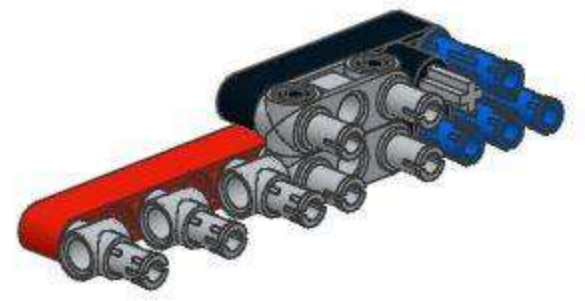


3



1x 5  
1x 1x

This block contains a parts list for step 3. It features three items: a blue pin, a black 5-hole Technic beam, and a grey 2x2 Technic connector. The quantities are listed as '1x' for each item. The number '5' is written in red next to the blue pin, and the number '1x' is written in black below the black beam.

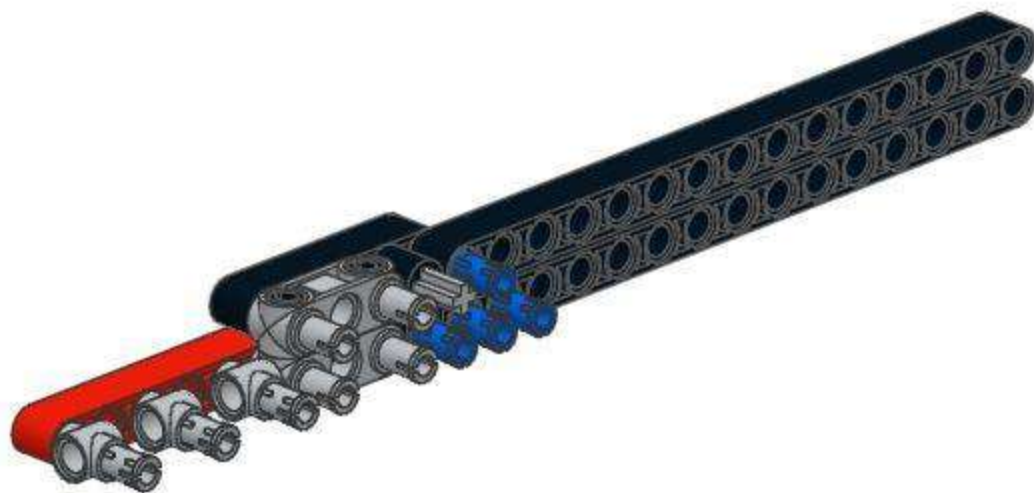


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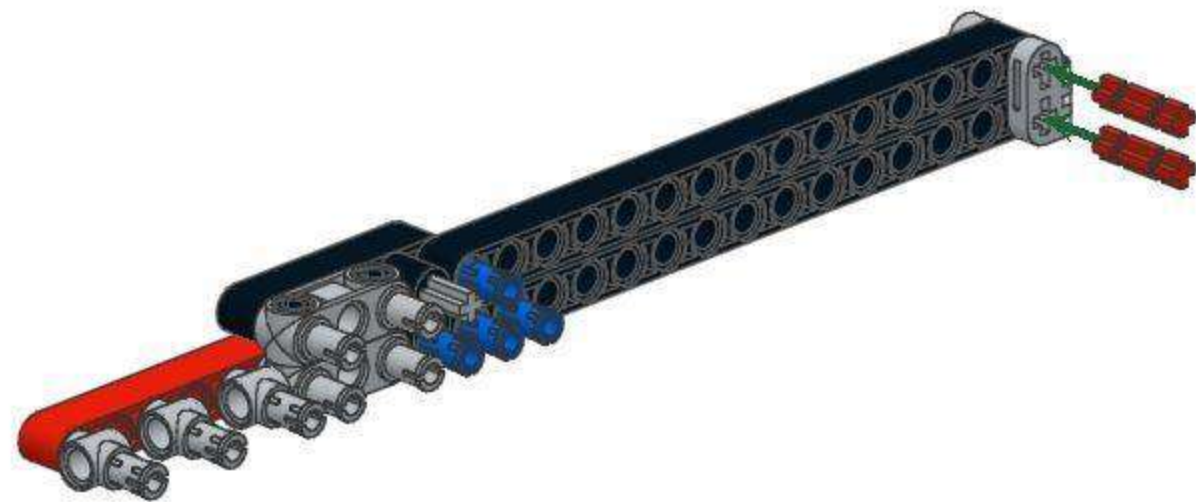
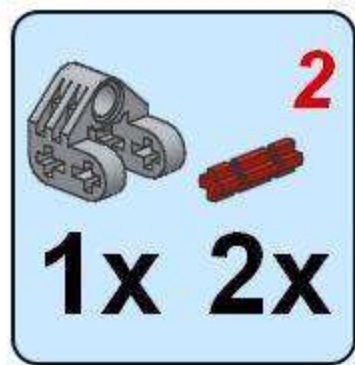
15



2x

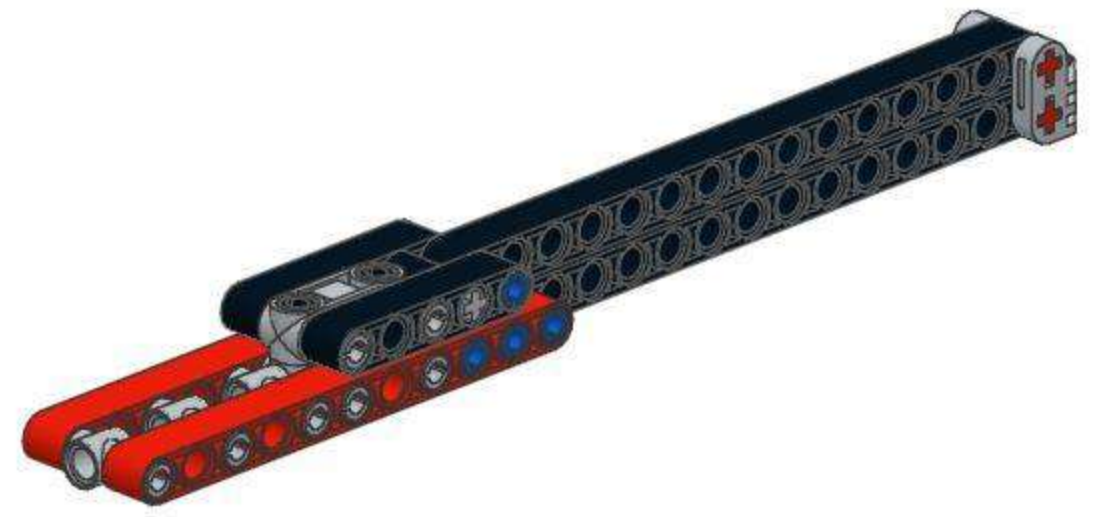


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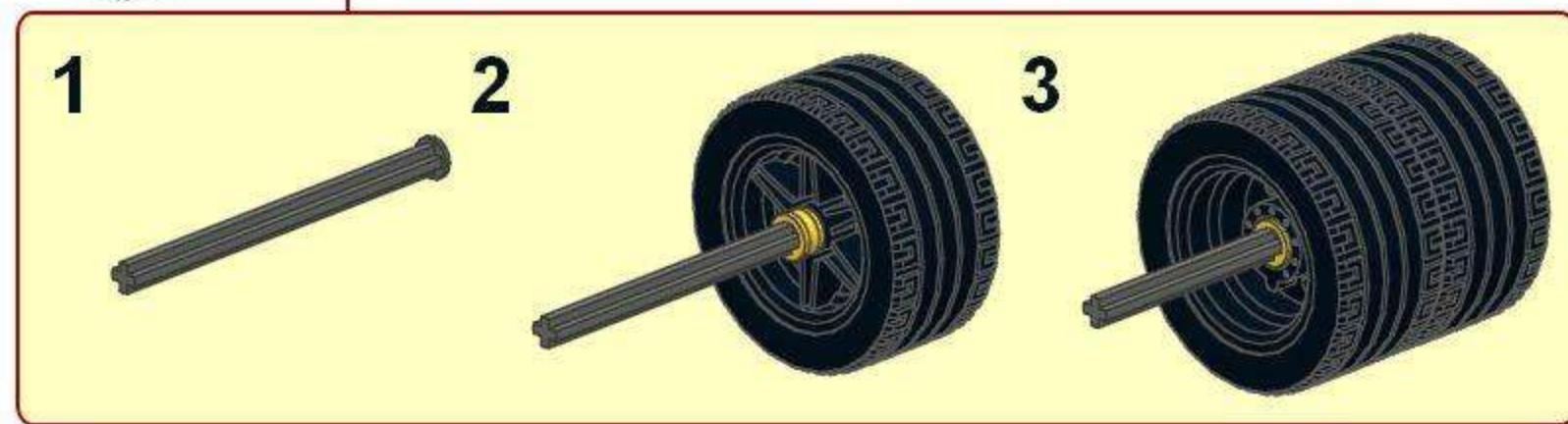
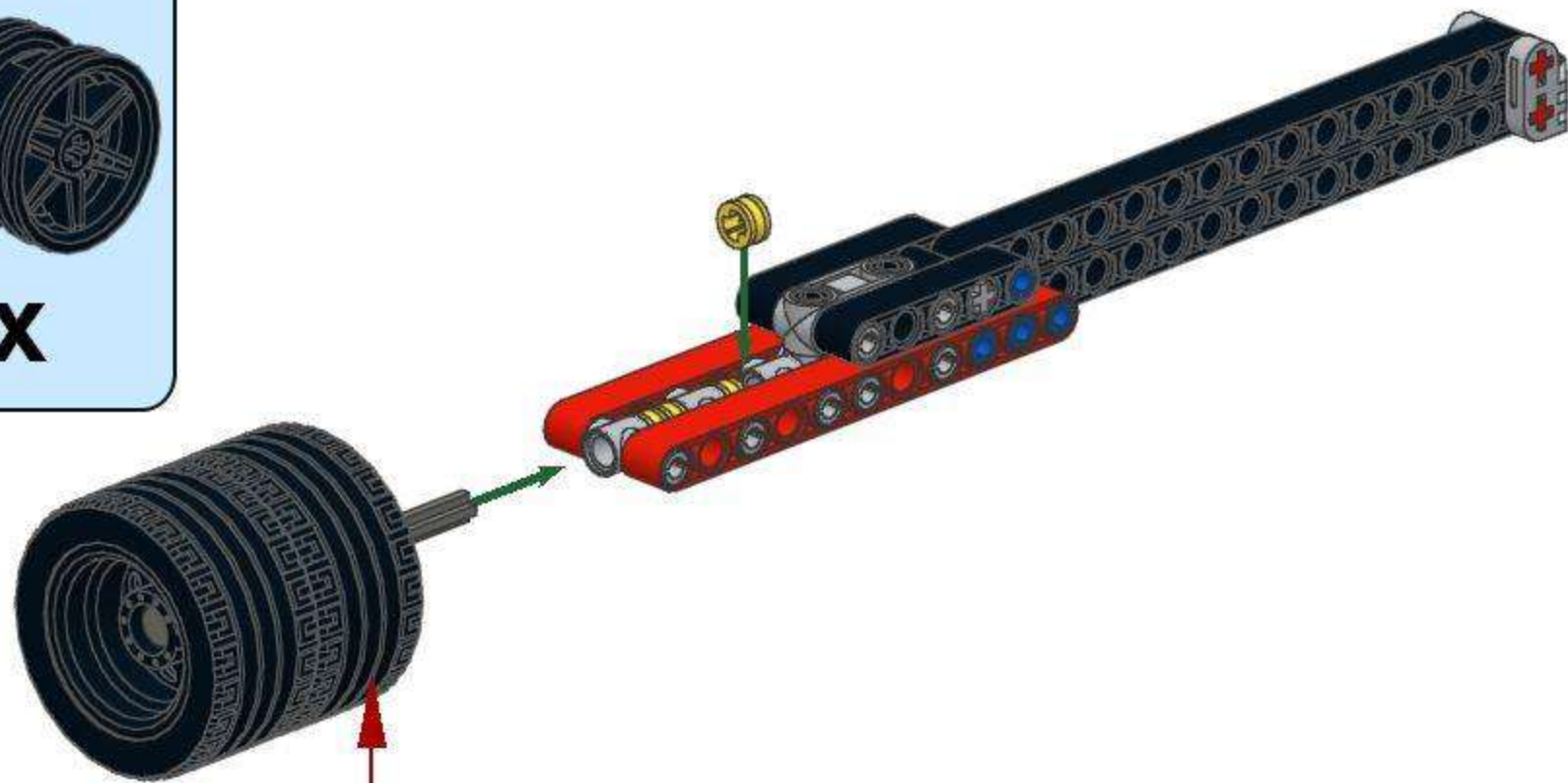


6

5  
1x  
11  
1x

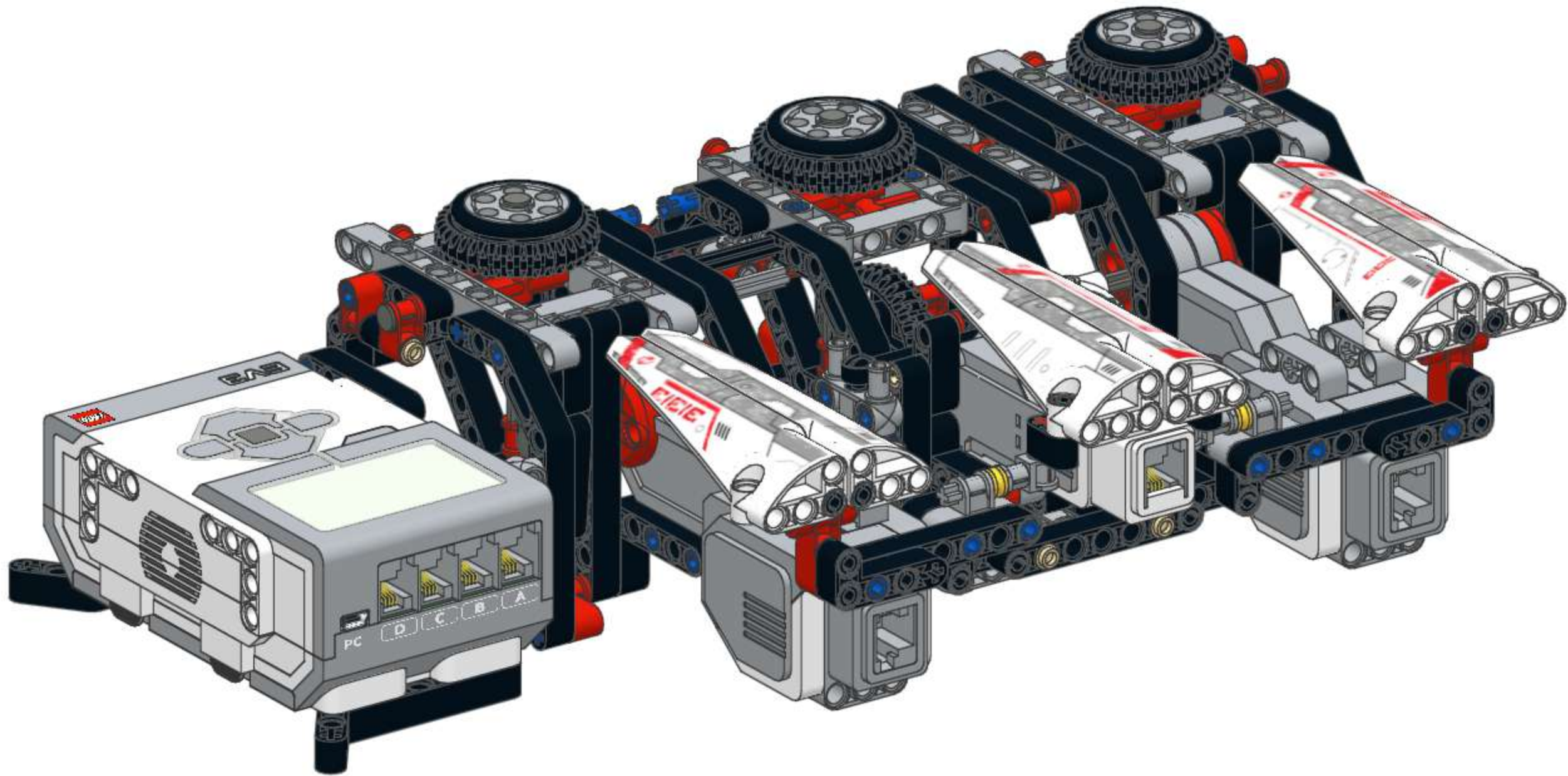


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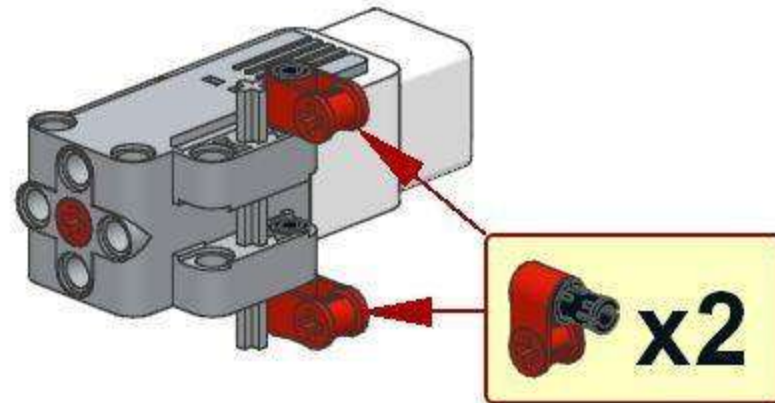
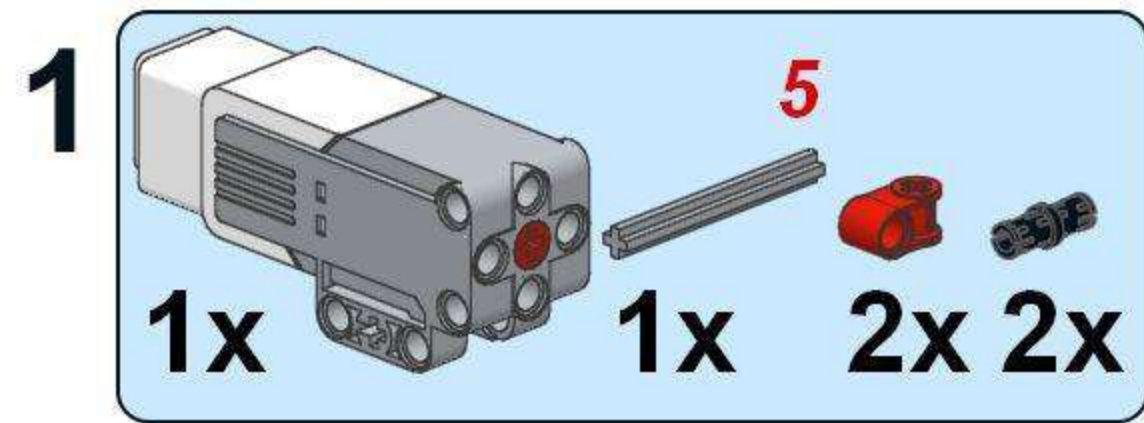


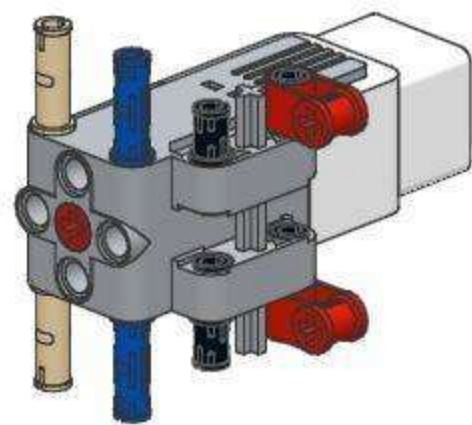
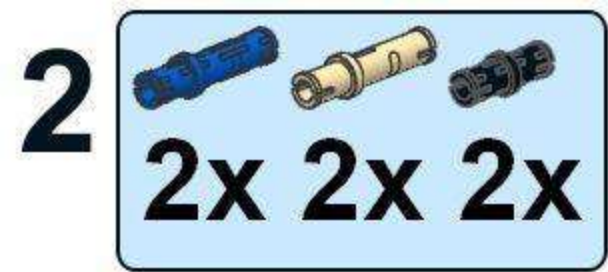
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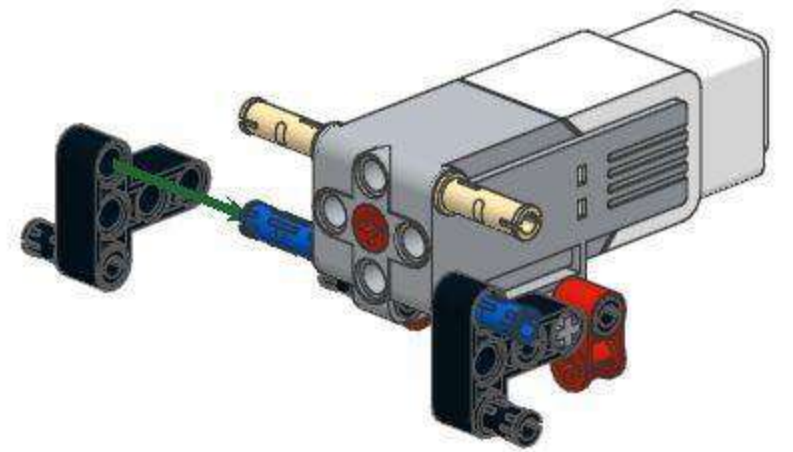


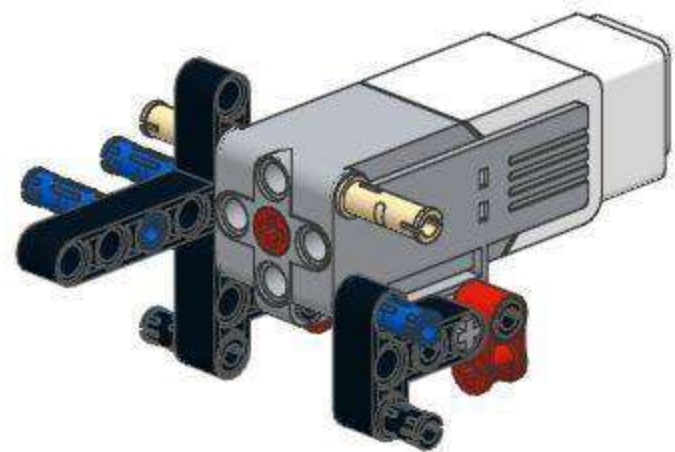
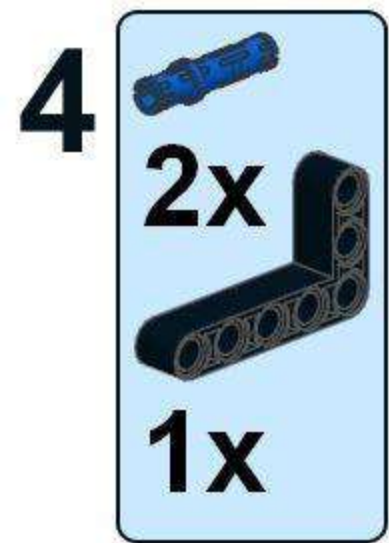




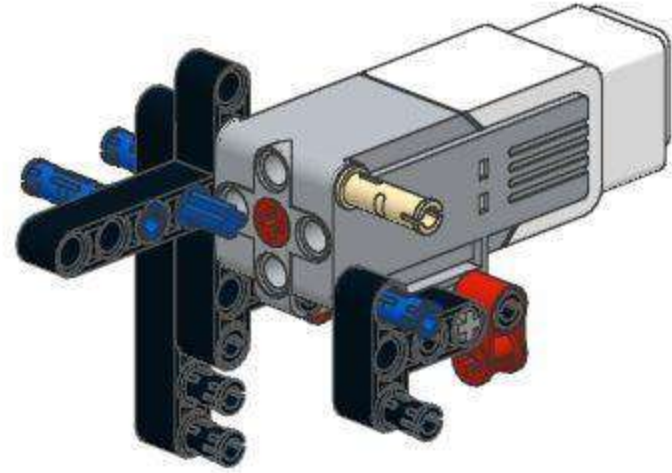
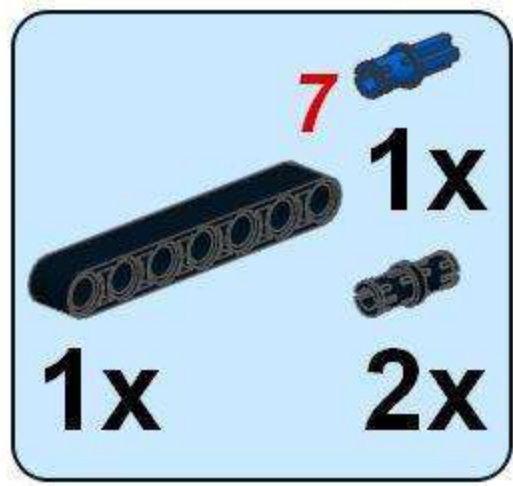


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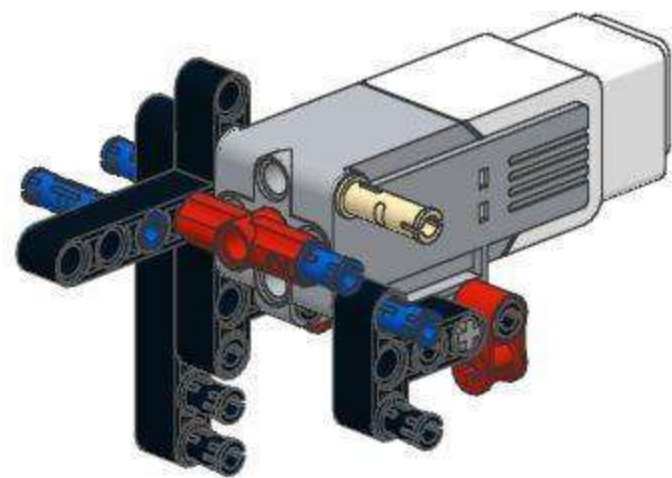




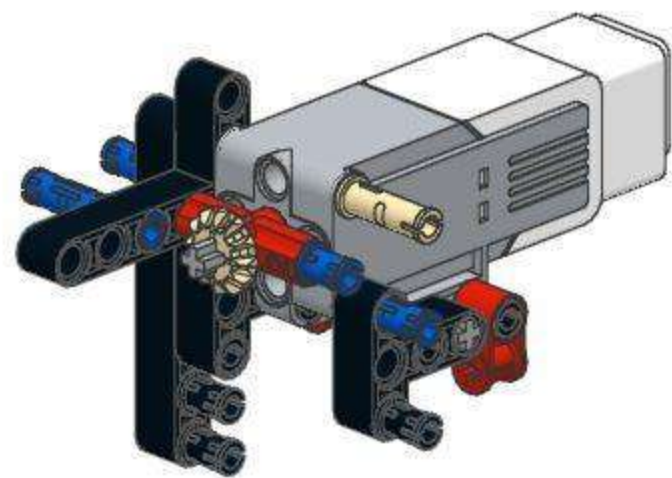
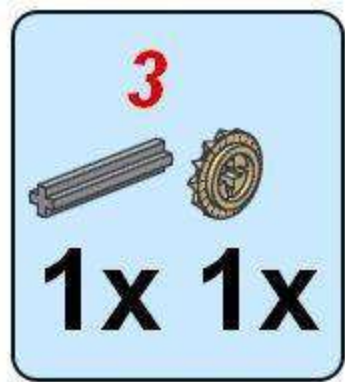
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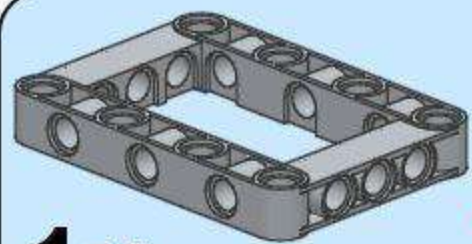
6  
1x 1x



7



8

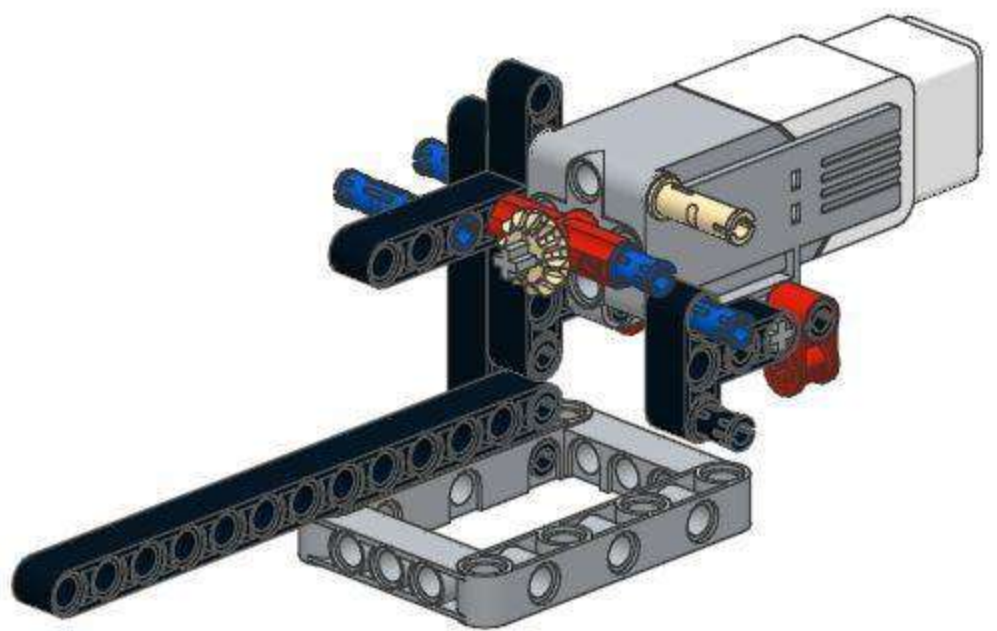


1x

13

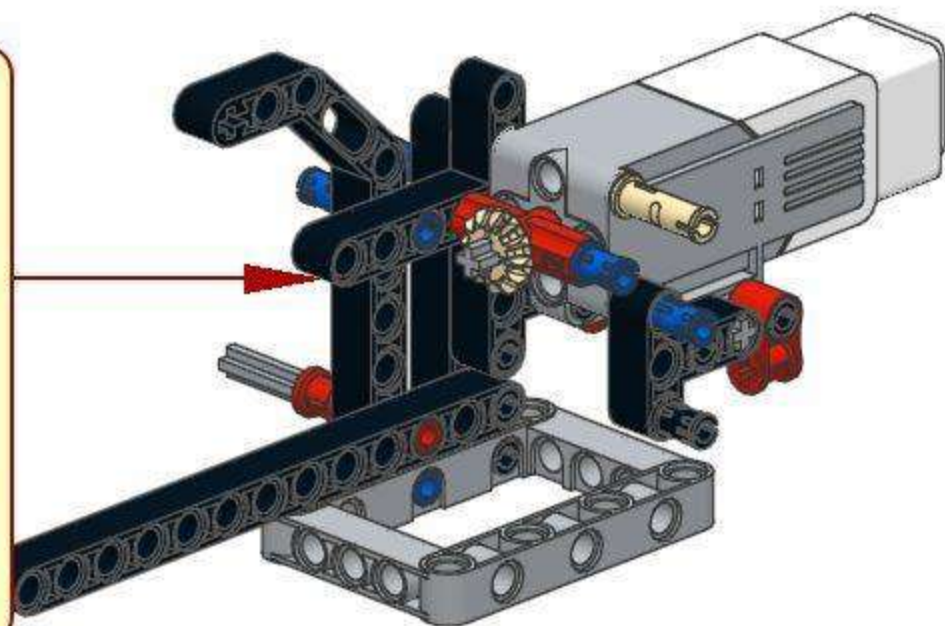
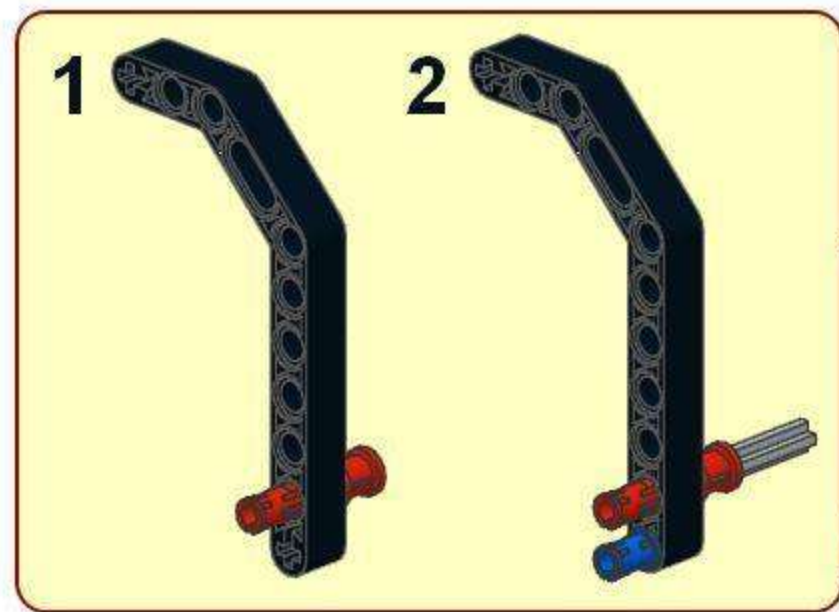
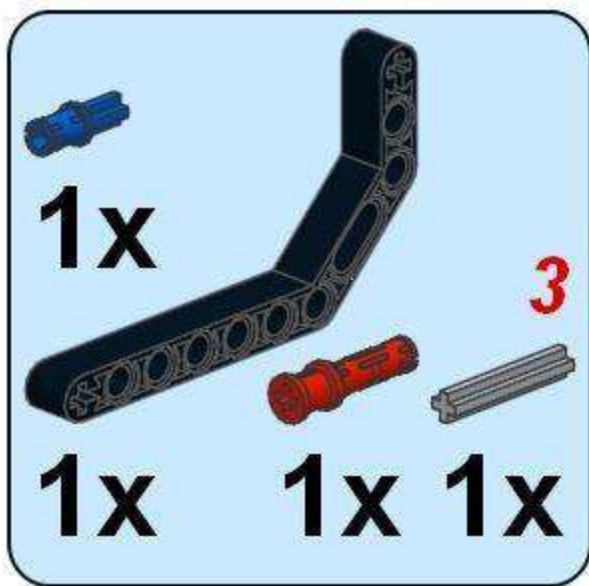


1x

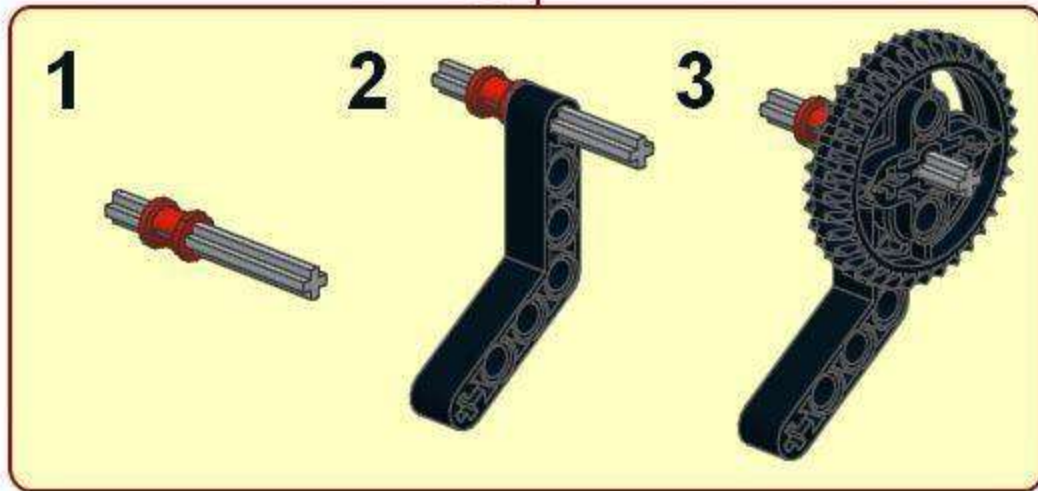
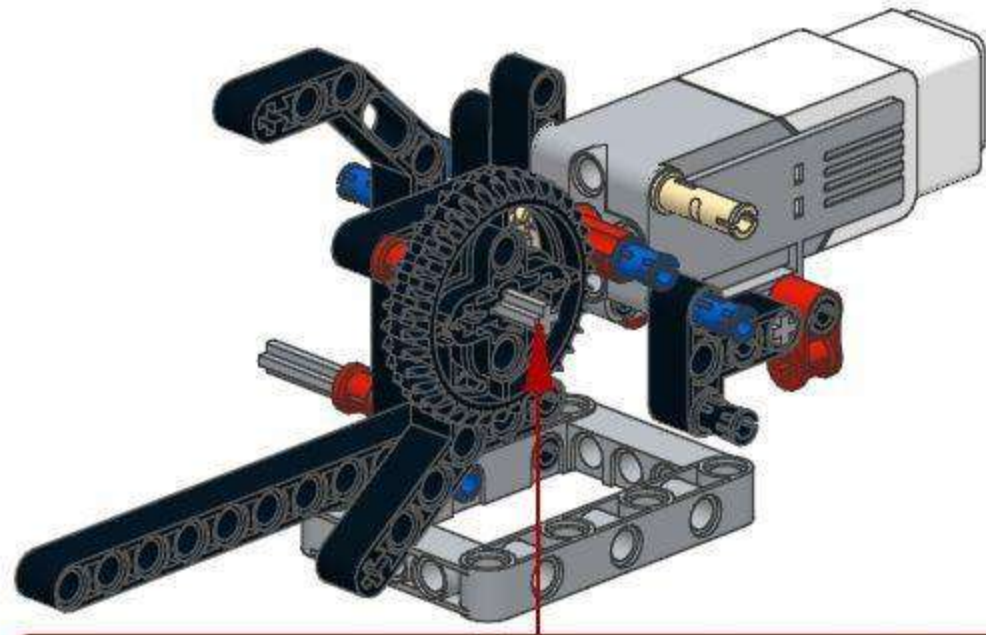
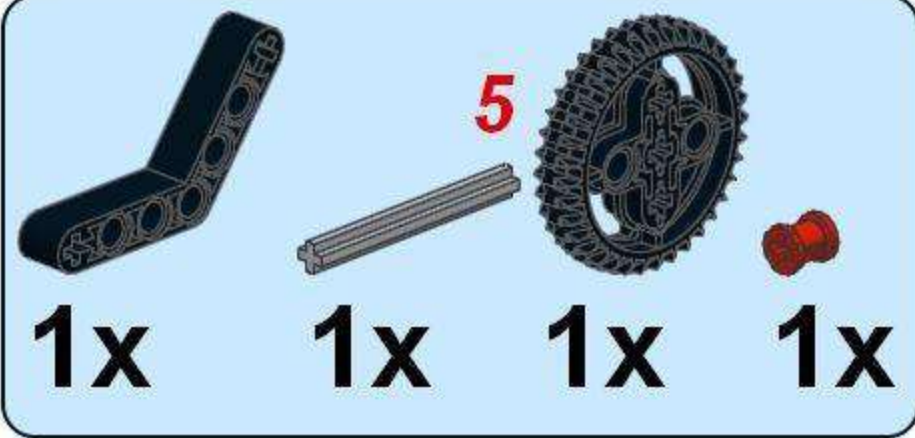




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# 10



11



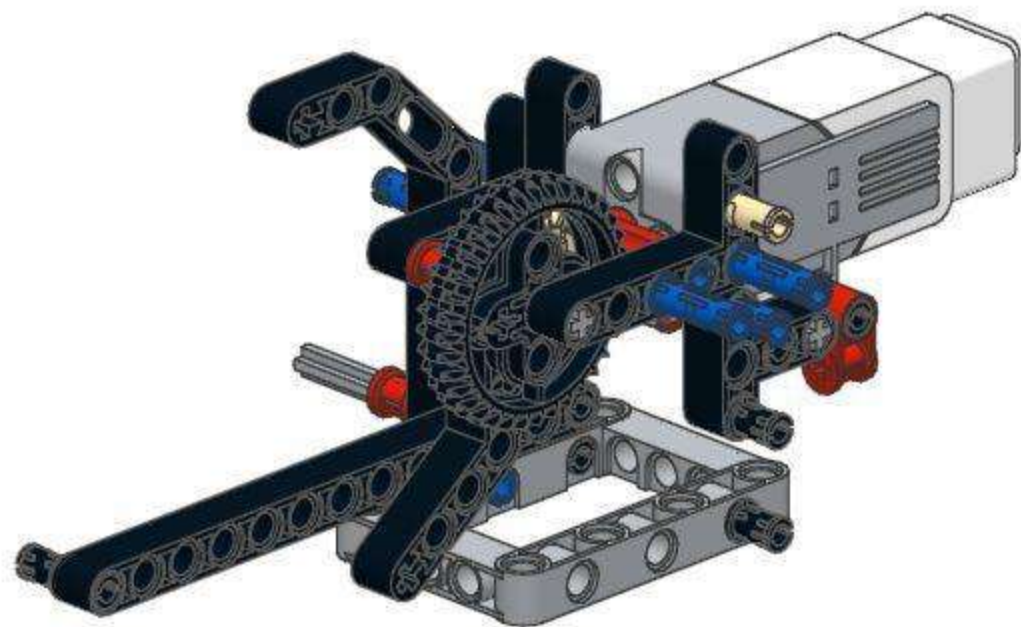
2x







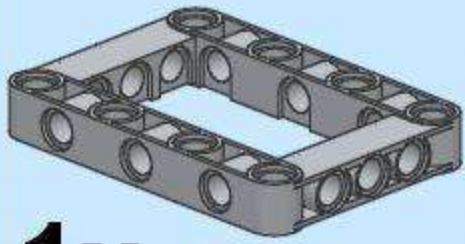

2x

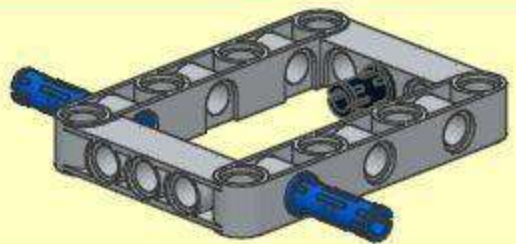


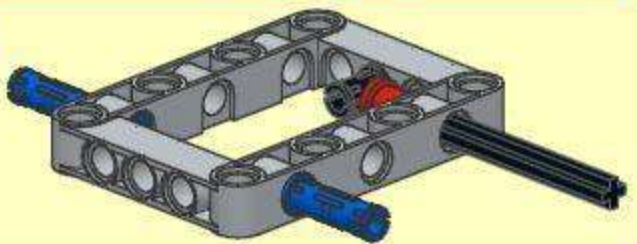
1x



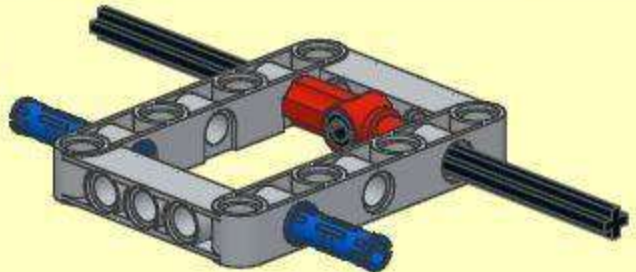
# 12

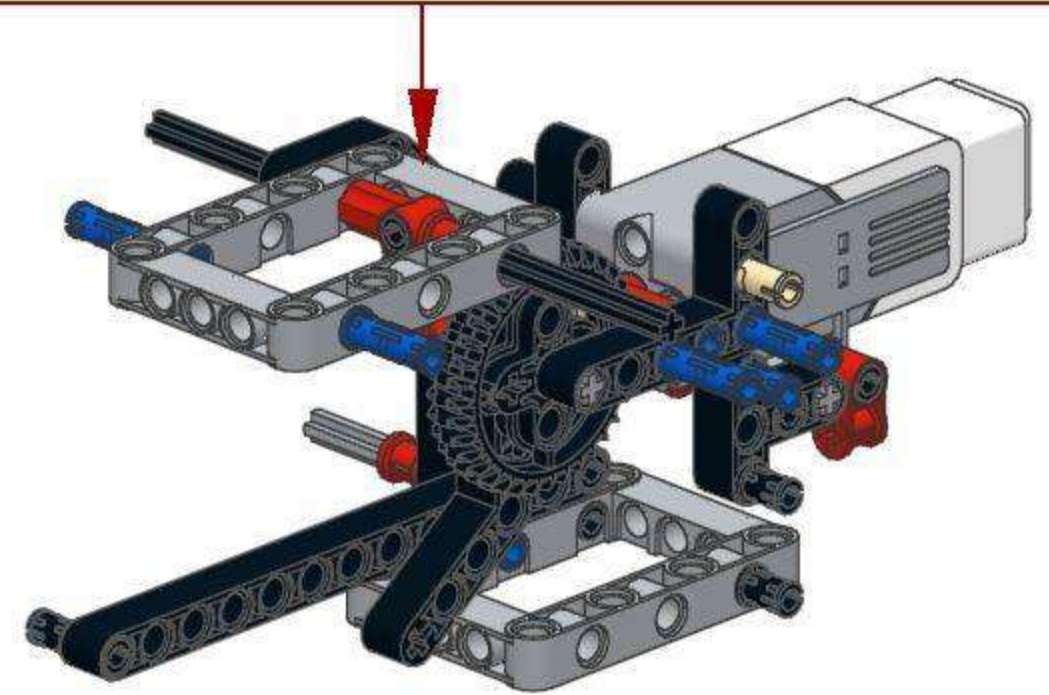
		
<b>2x</b>	<b>6</b>	<b>1x</b>
		
<b>2x</b>		<b>1x</b>
		
<b>1x</b>		<b>1x</b>

**1** 

**2** 

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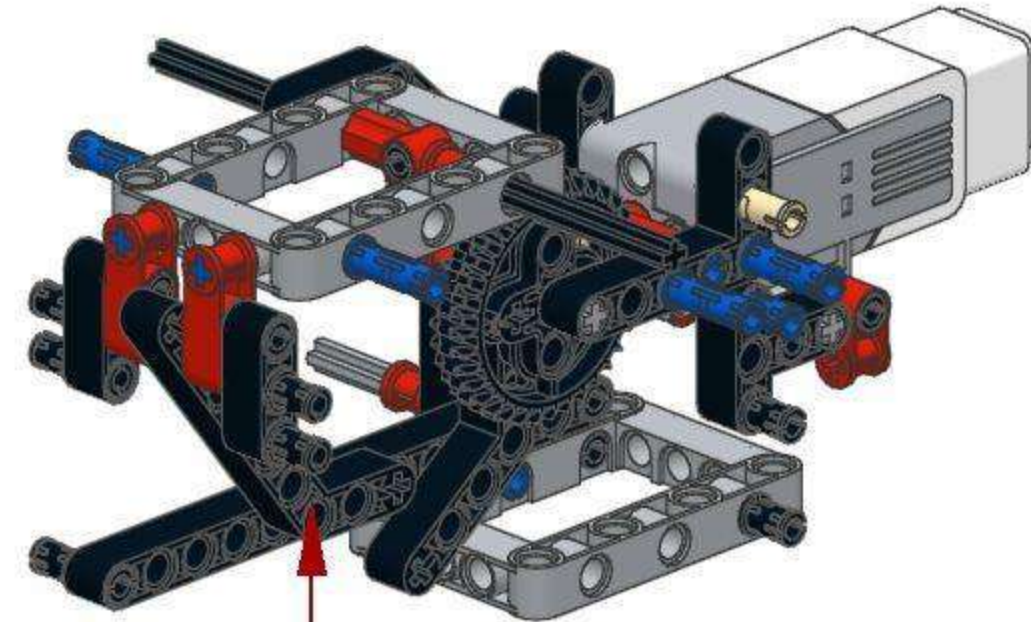
**3** 



A red arrow points from the sub-assembly shown in step 3 of the previous diagram to its position on the main assembly. The main assembly includes a motor, a gear, and various other beams and pins.

# 13

**3**  
**2x**  
**2x**  
**1x**   **1x**   **2x**  
**6x**



**1**

**2**

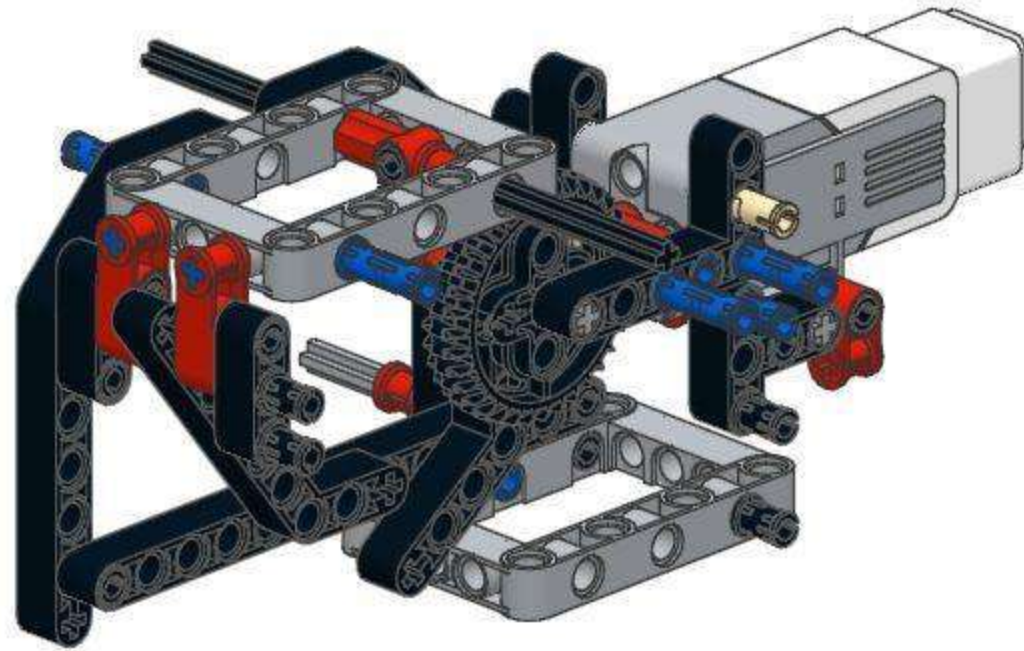
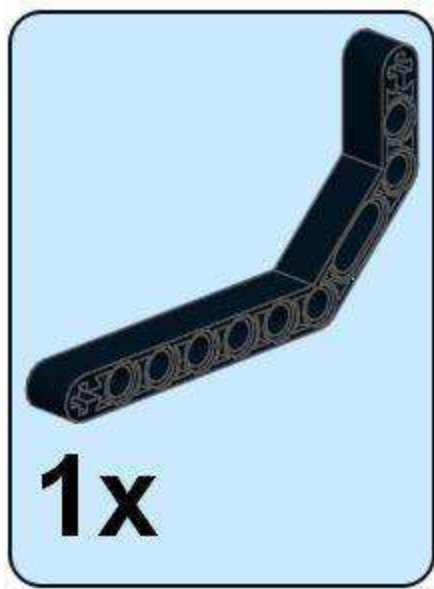
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**3**

**4**

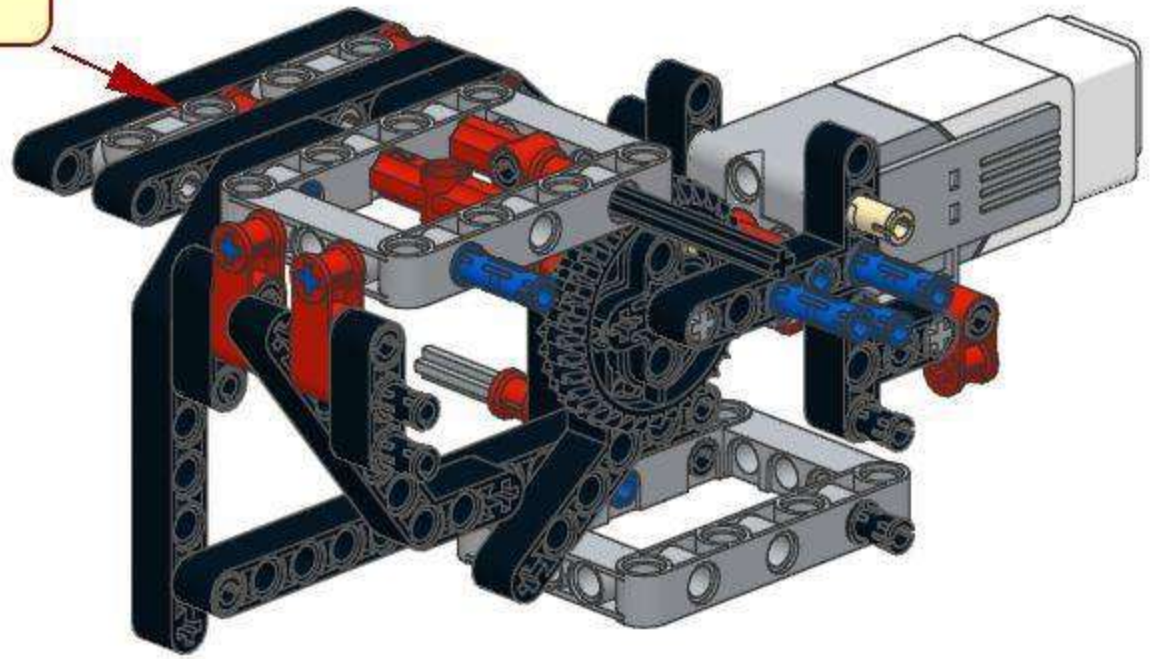
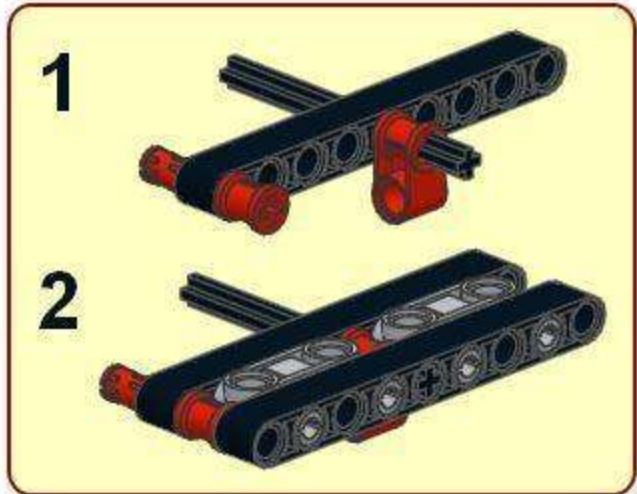
**5**

14

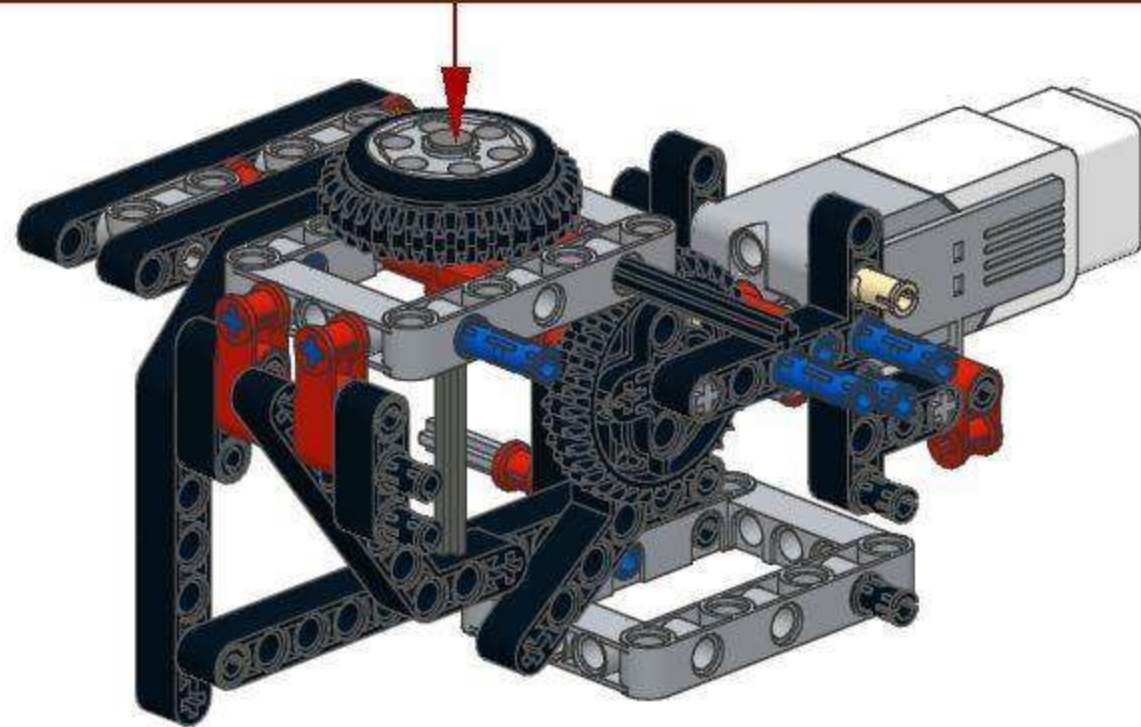
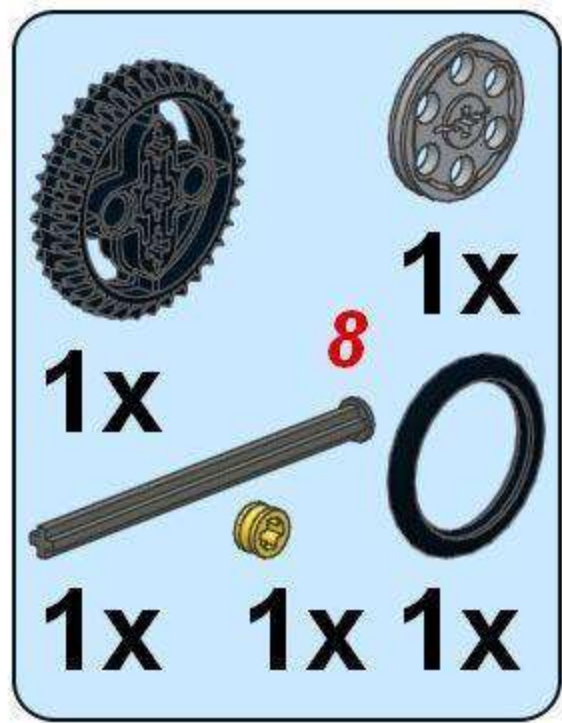


15

- 1x 6
- 1x 9
- 1x 1
- 2x 1
- 1x 2
- 2x 2

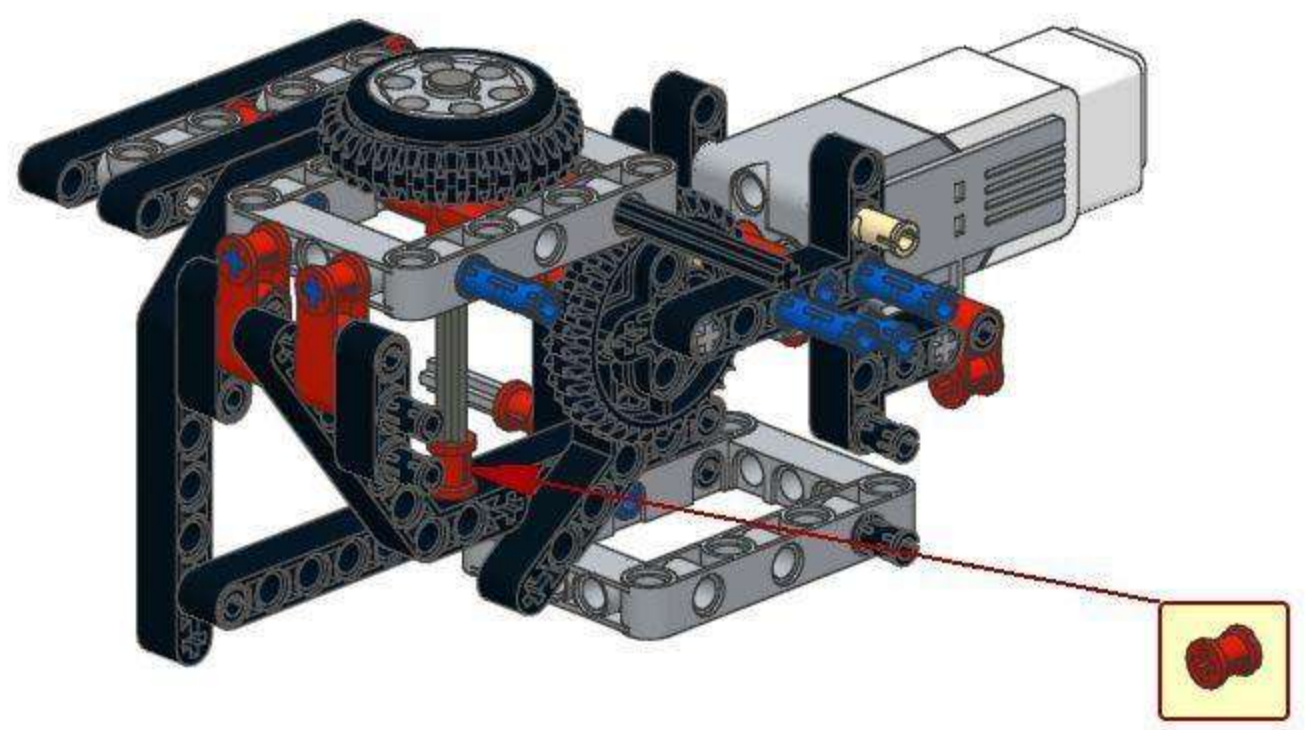


# 16

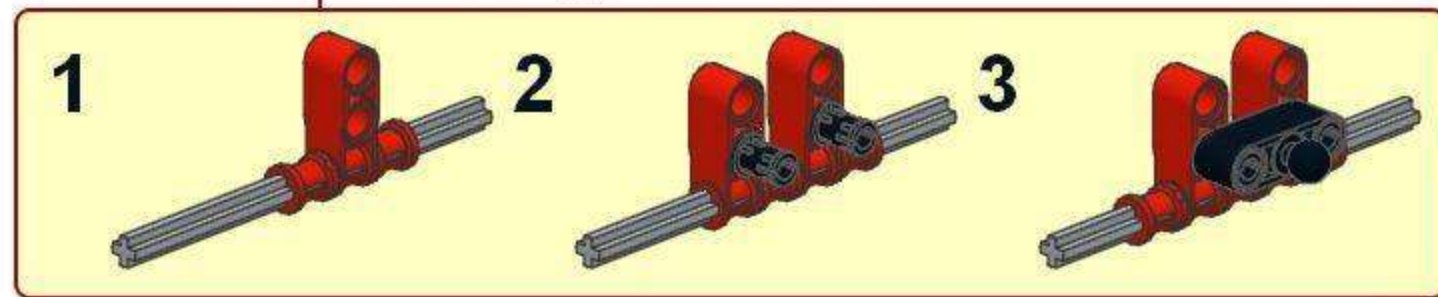
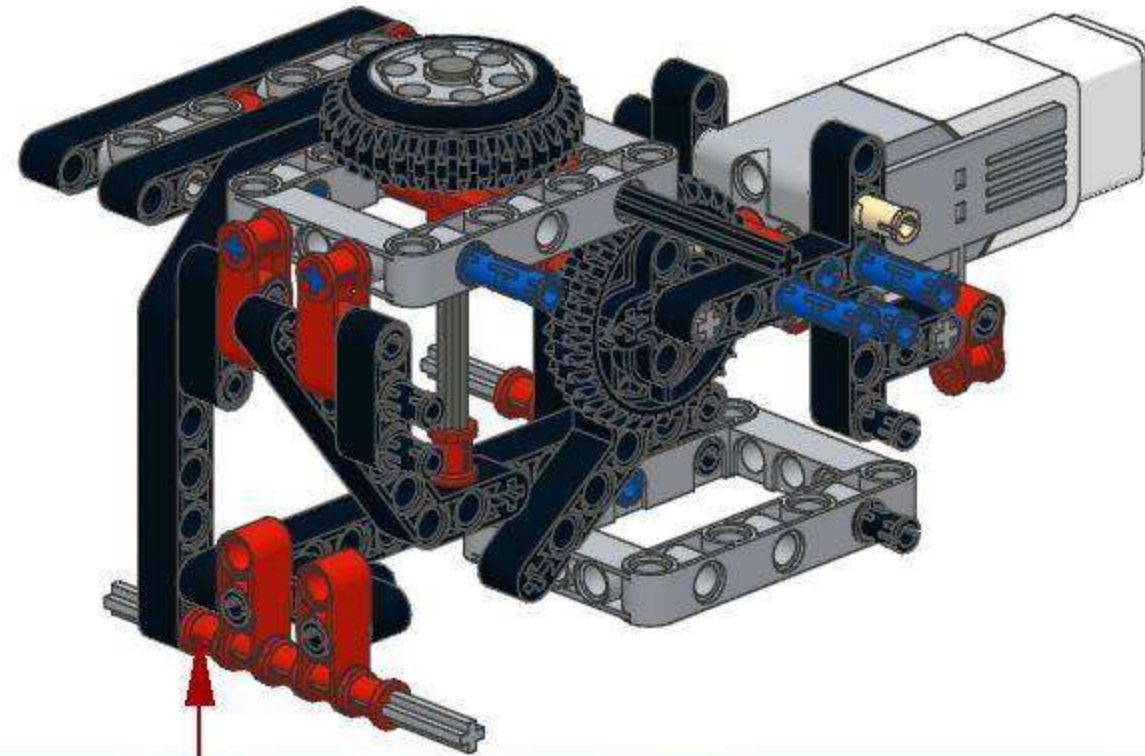
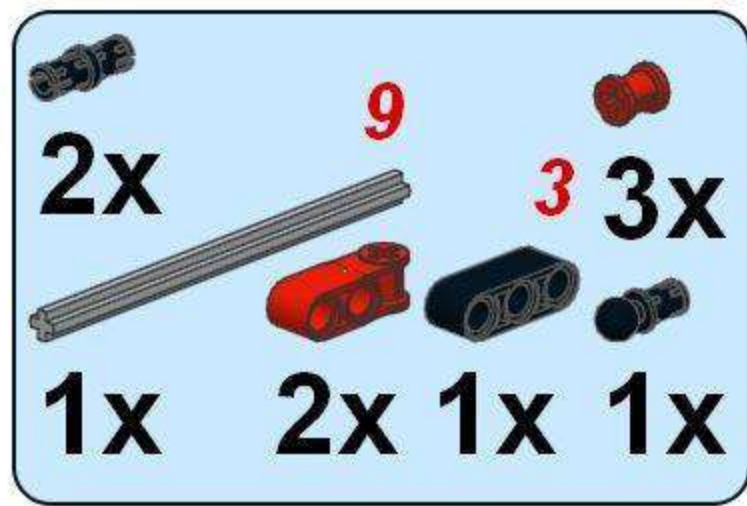




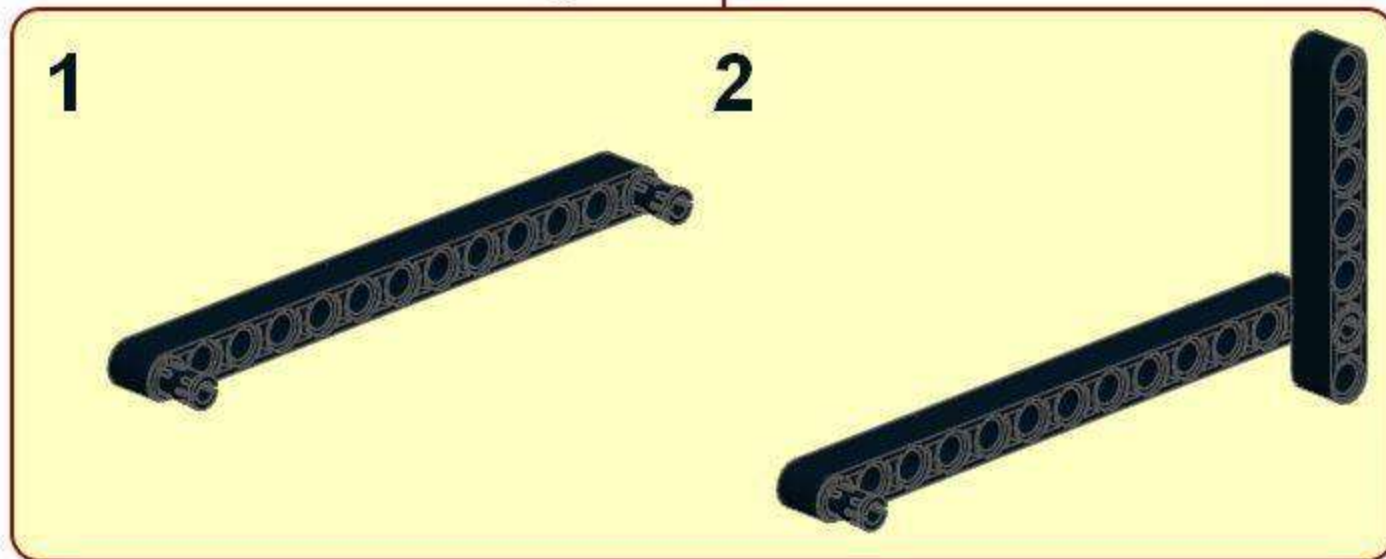
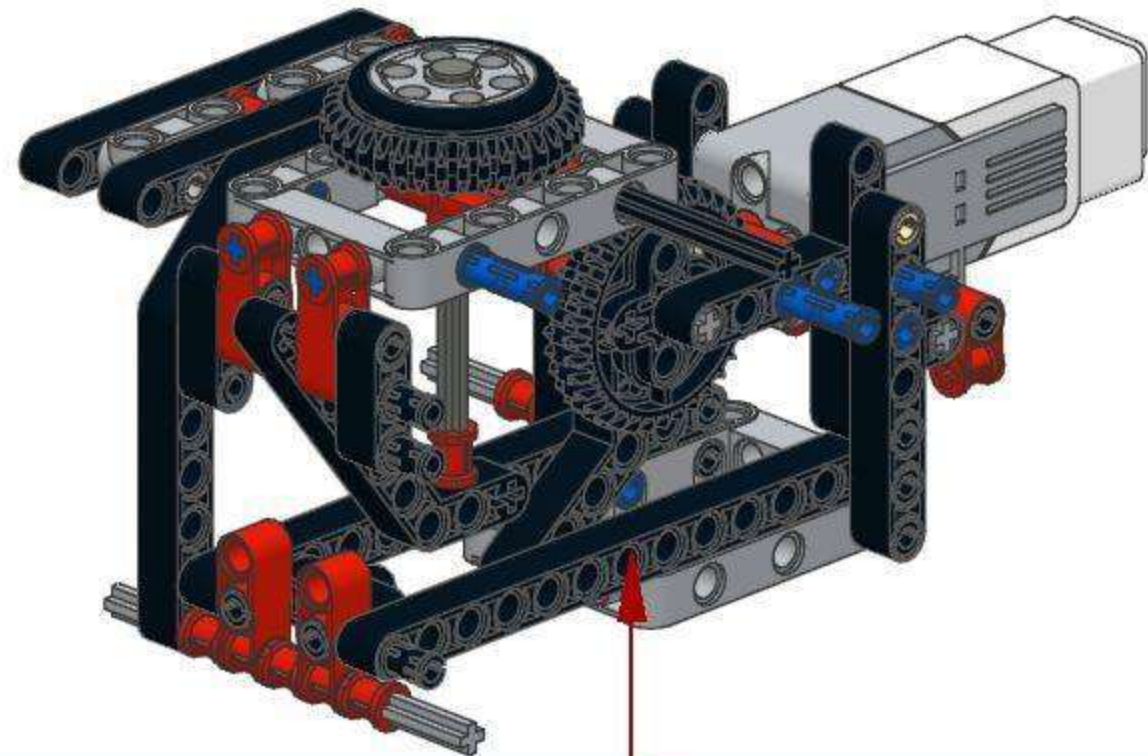
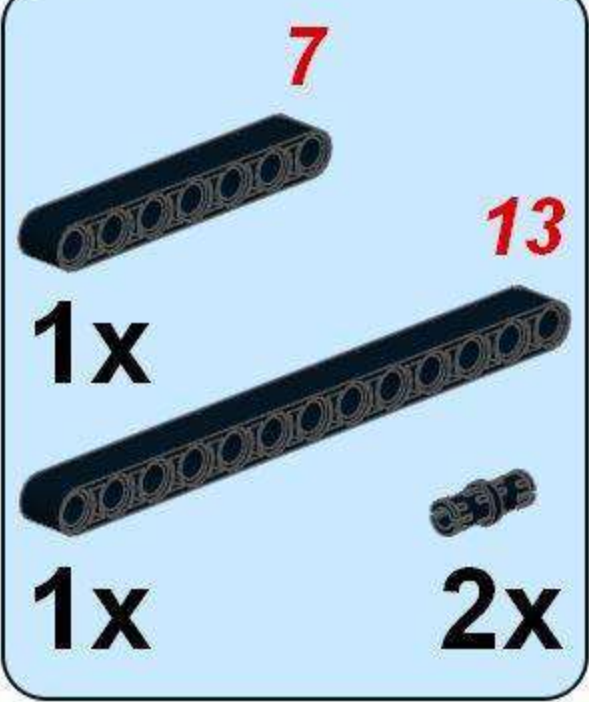
17  1x



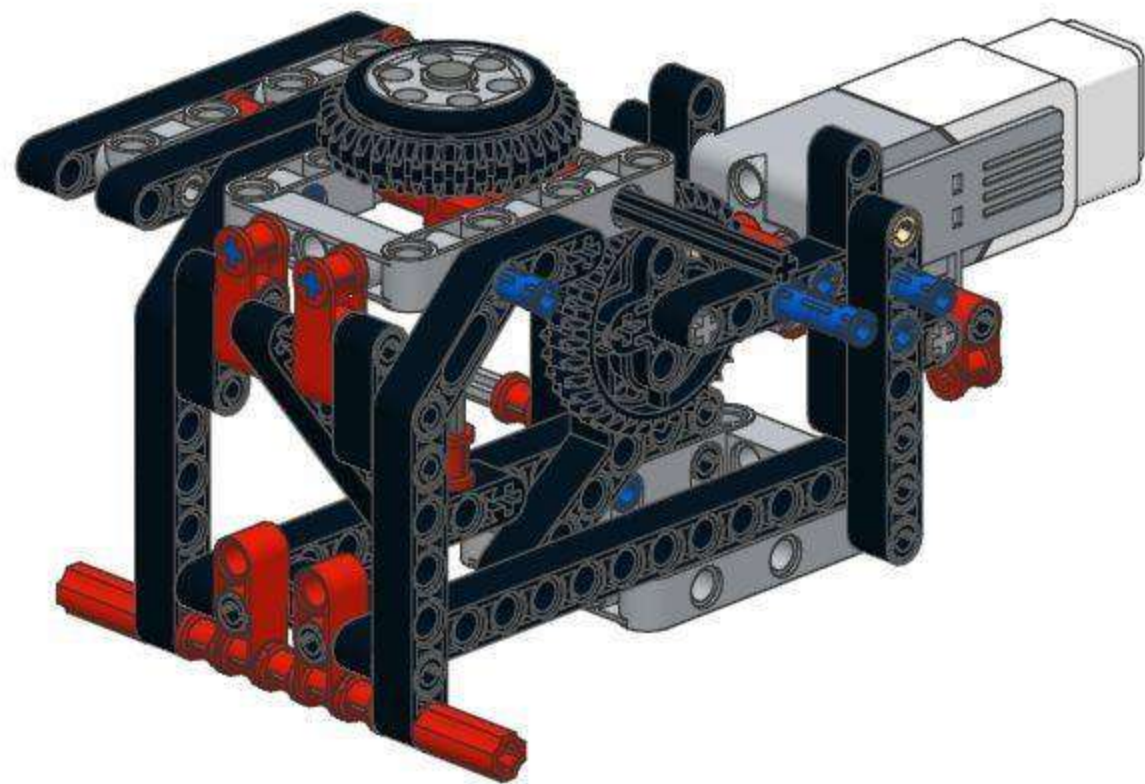
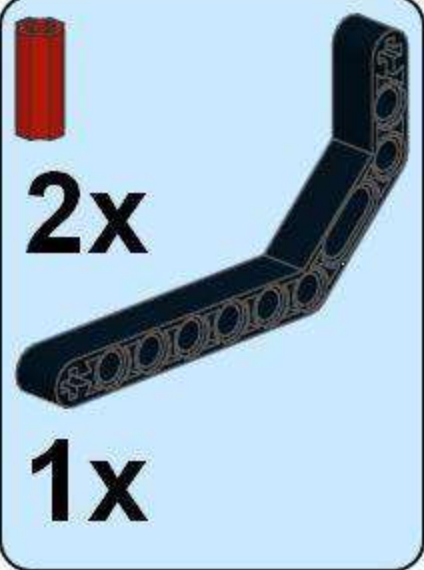
# 18



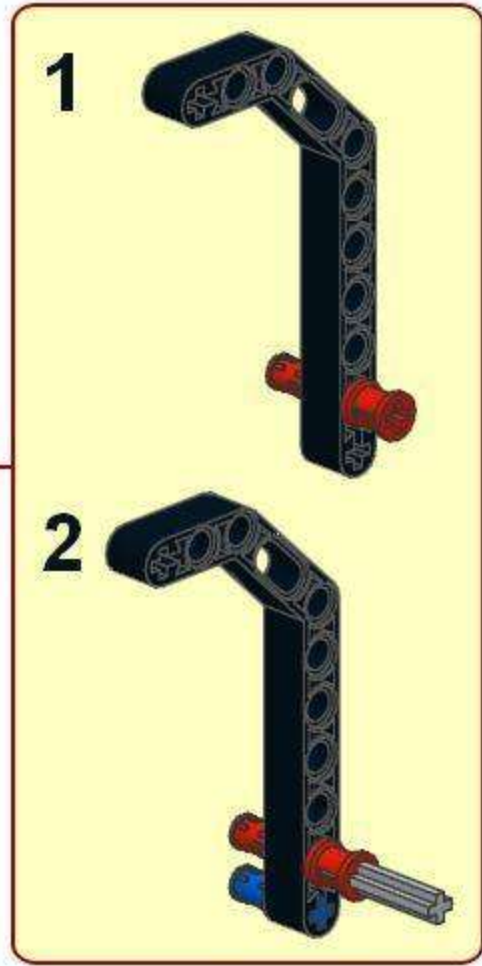
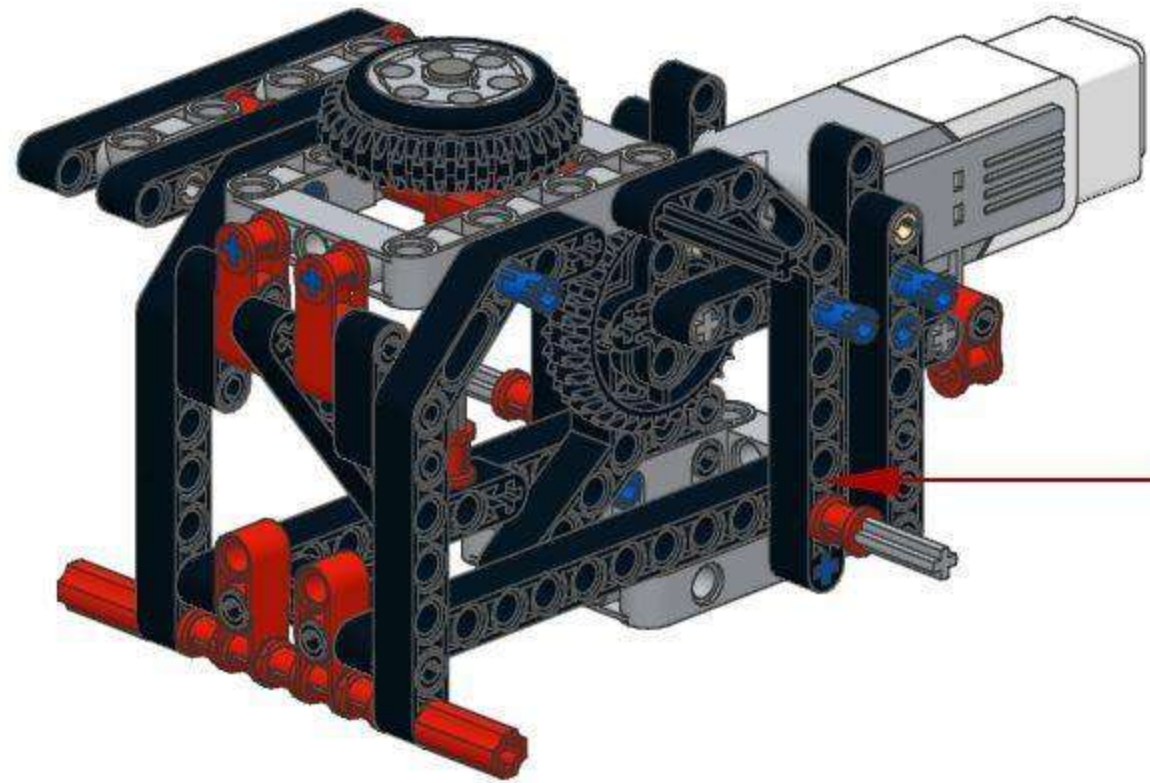
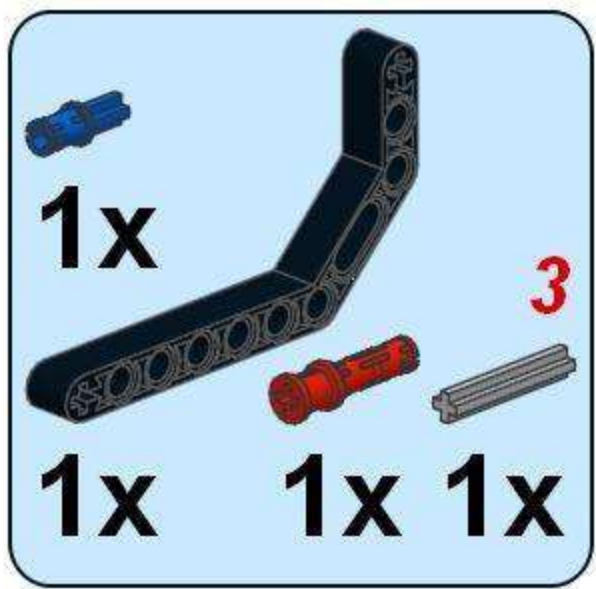
# 19



20

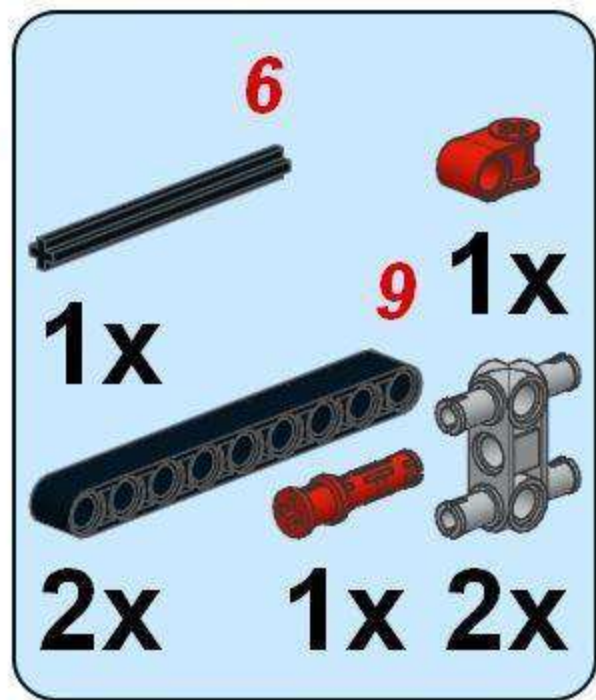


21

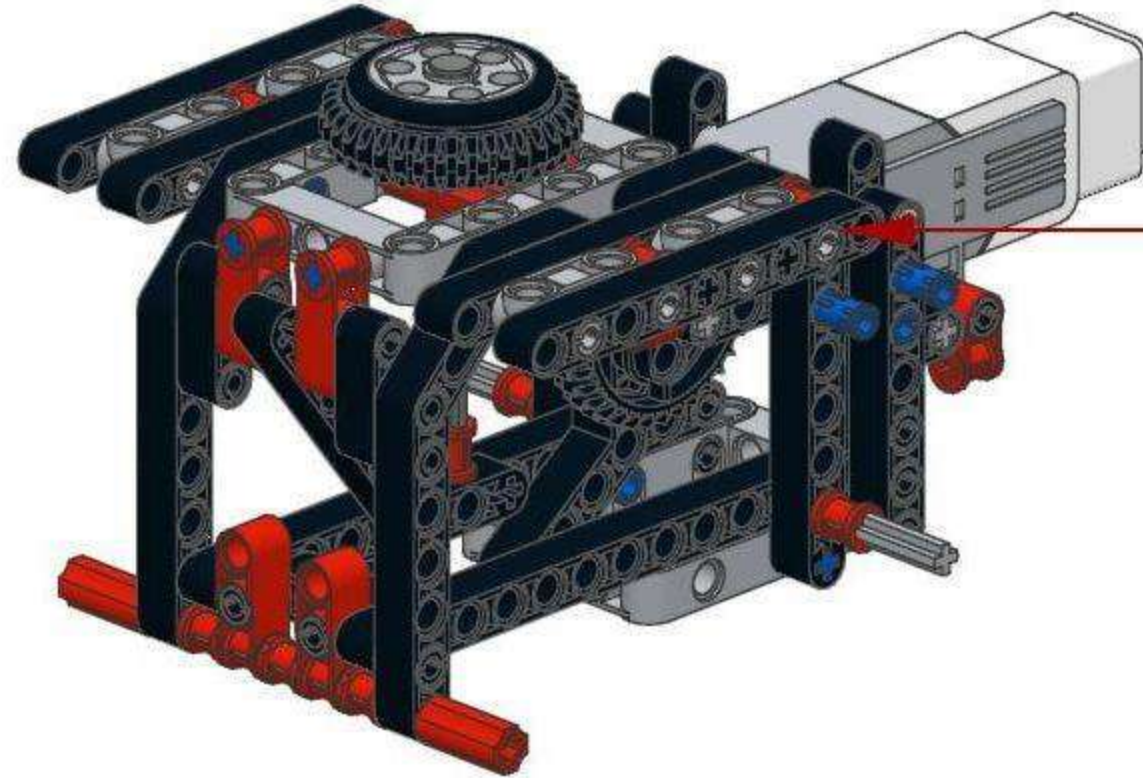


# 22

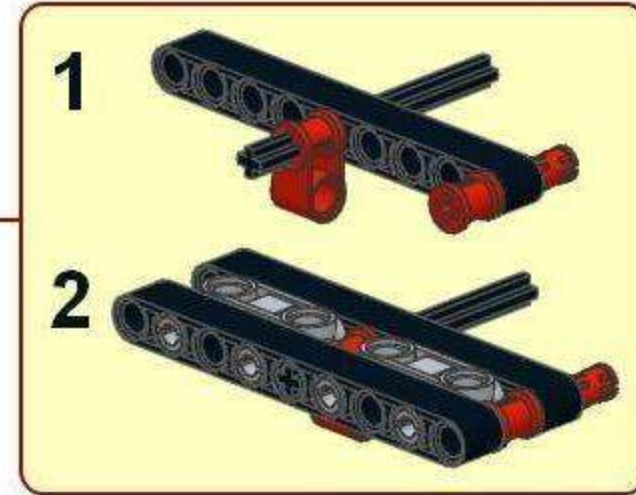
6  
1x  
2x  
9  
1x  
2x



A parts list box with a light blue background. It contains six items: a long black axle (6), a red 2-way connector (1x), a black 1x5 Technic beam (1x), a red pin (9), a grey 2-way connector (1x), and a black 1x5 Technic beam (2x).

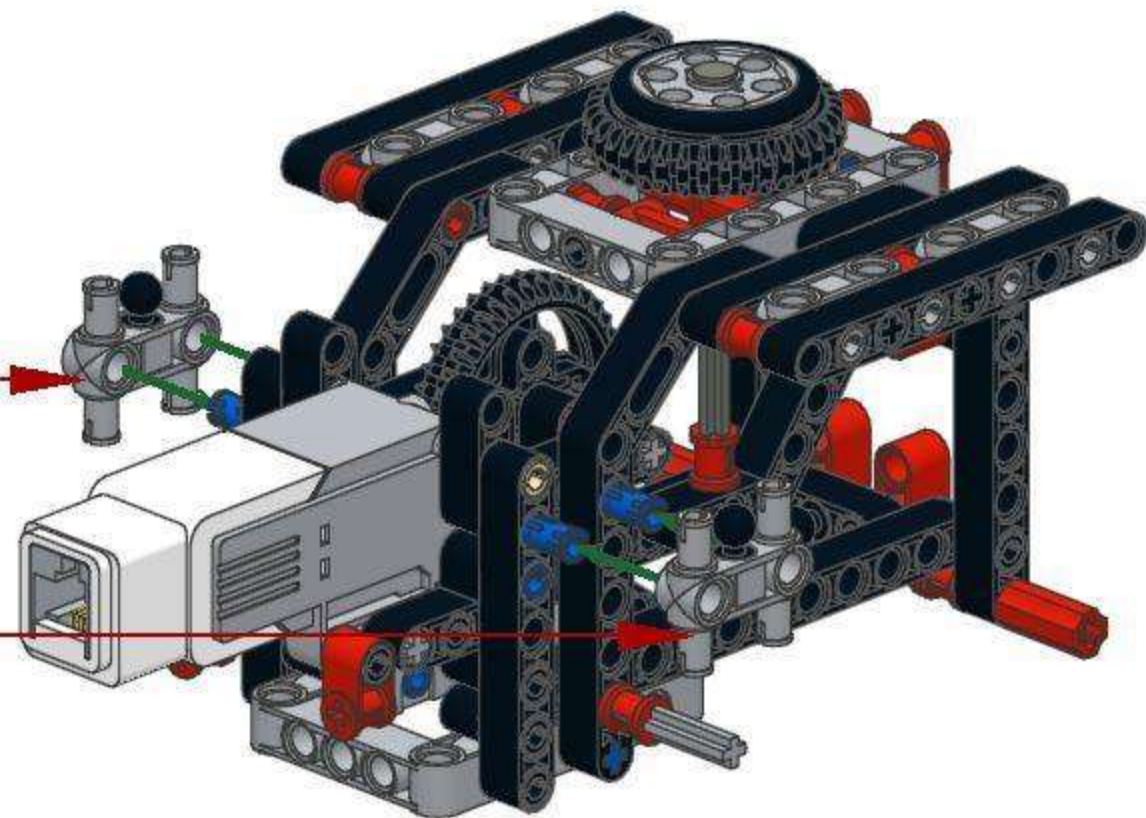
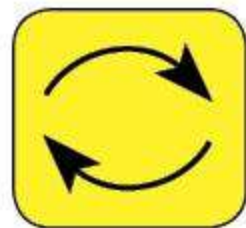


1  
2

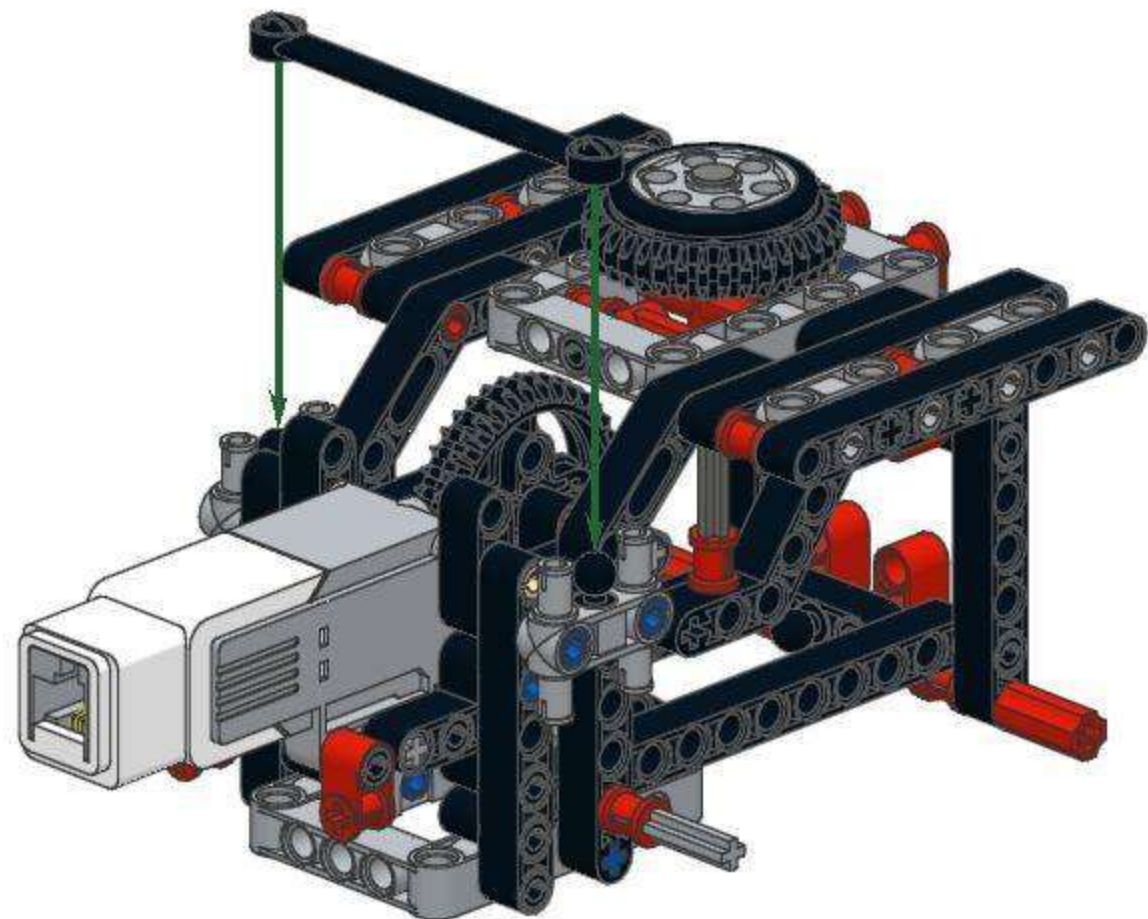


A callout diagram with a yellow background. It shows two sub-steps: 1. A black 1x5 Technic beam with a red 2-way connector and a red pin inserted. 2. A black 1x5 Technic beam with a red pin inserted.

23

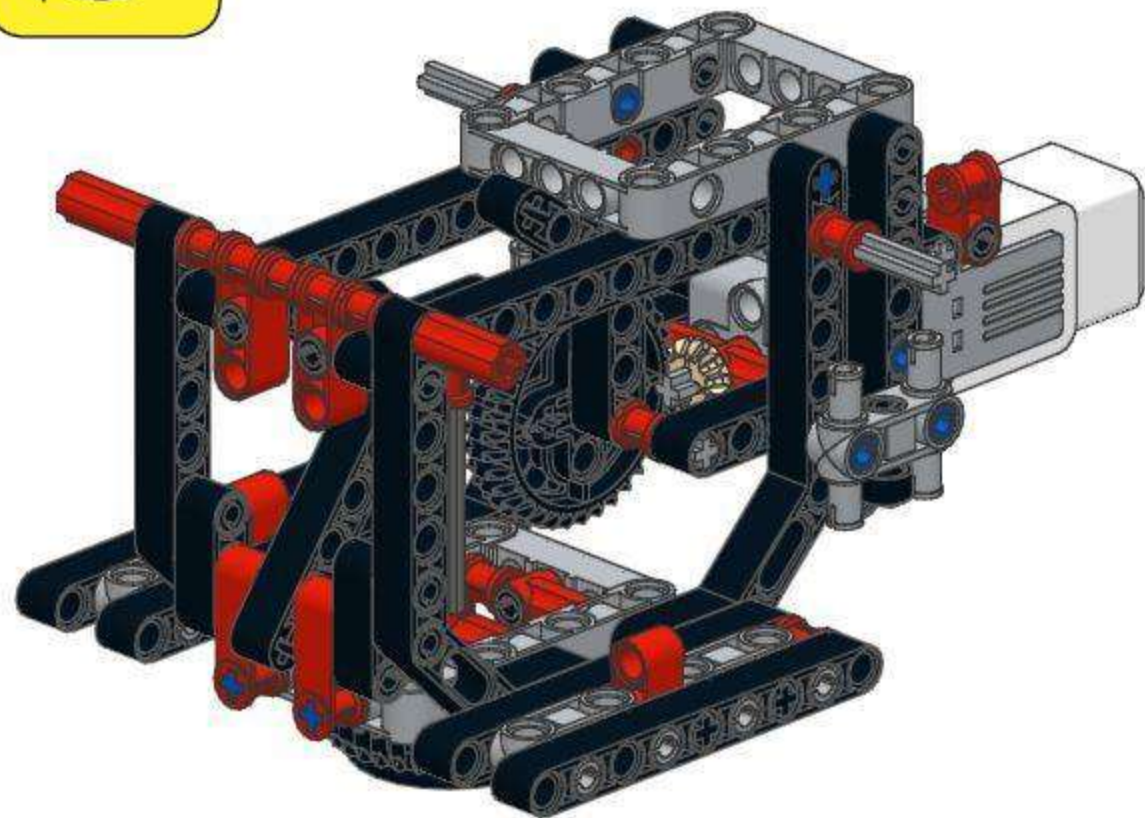


24










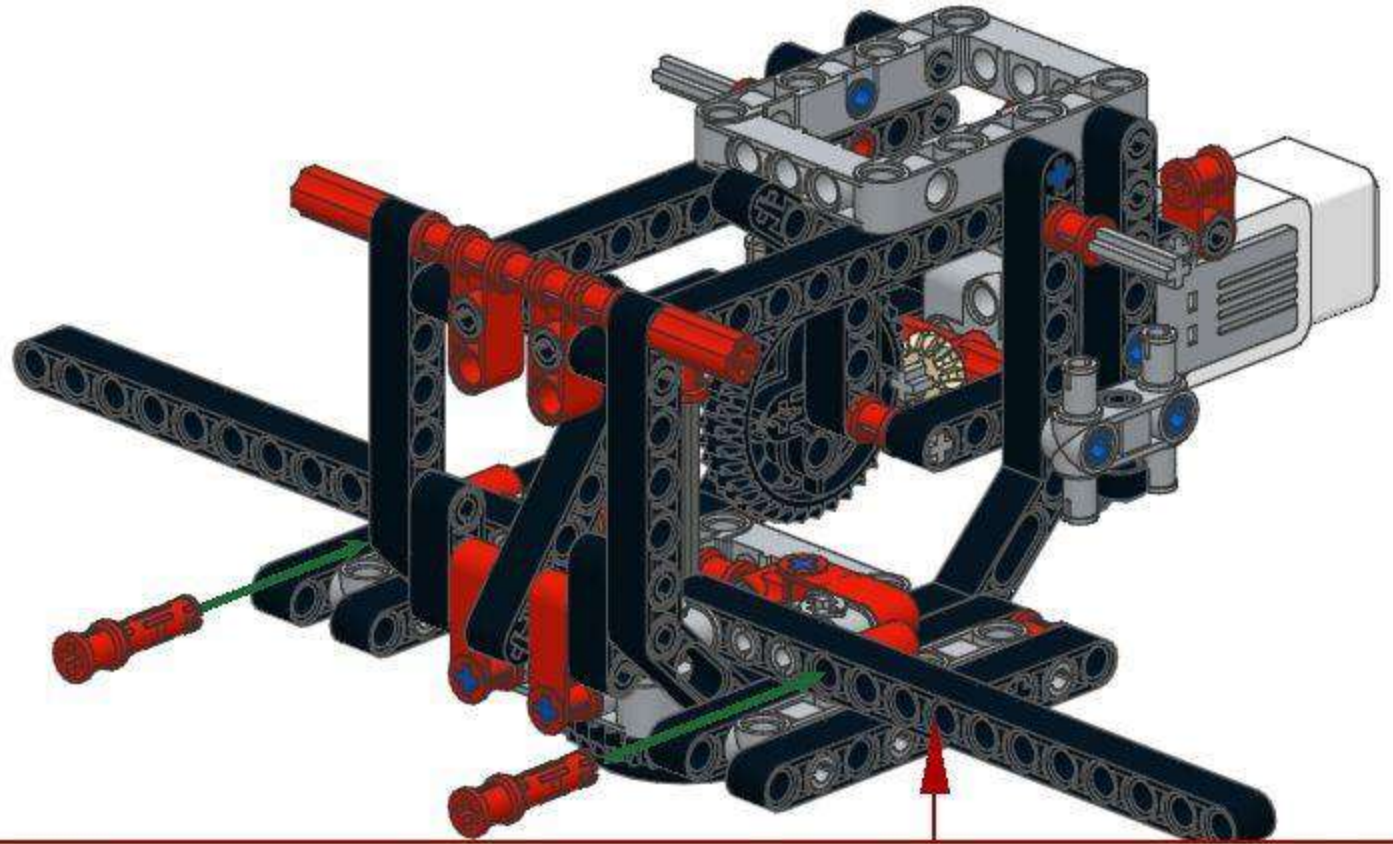




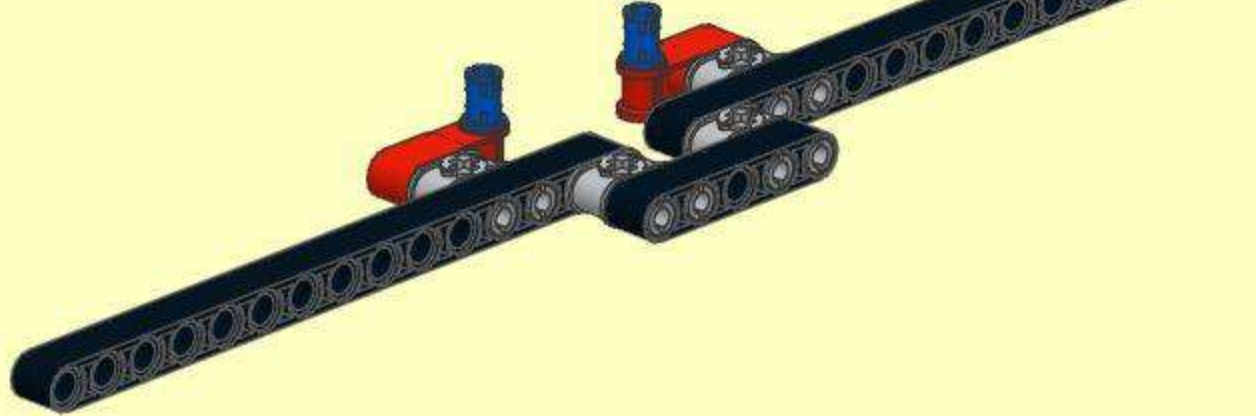
25



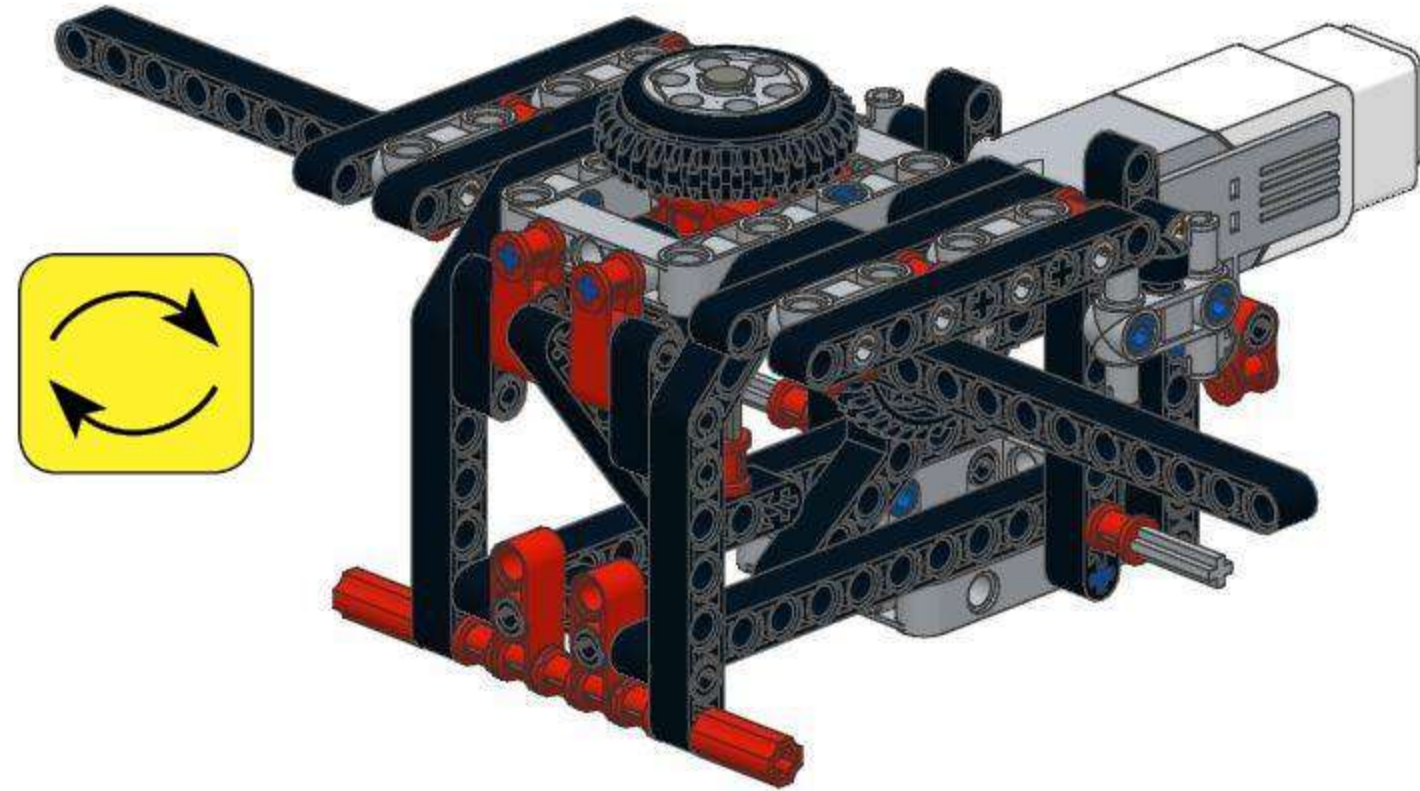
# 26

2x  15  2x  5  2x  1x  4x 












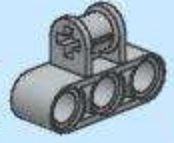


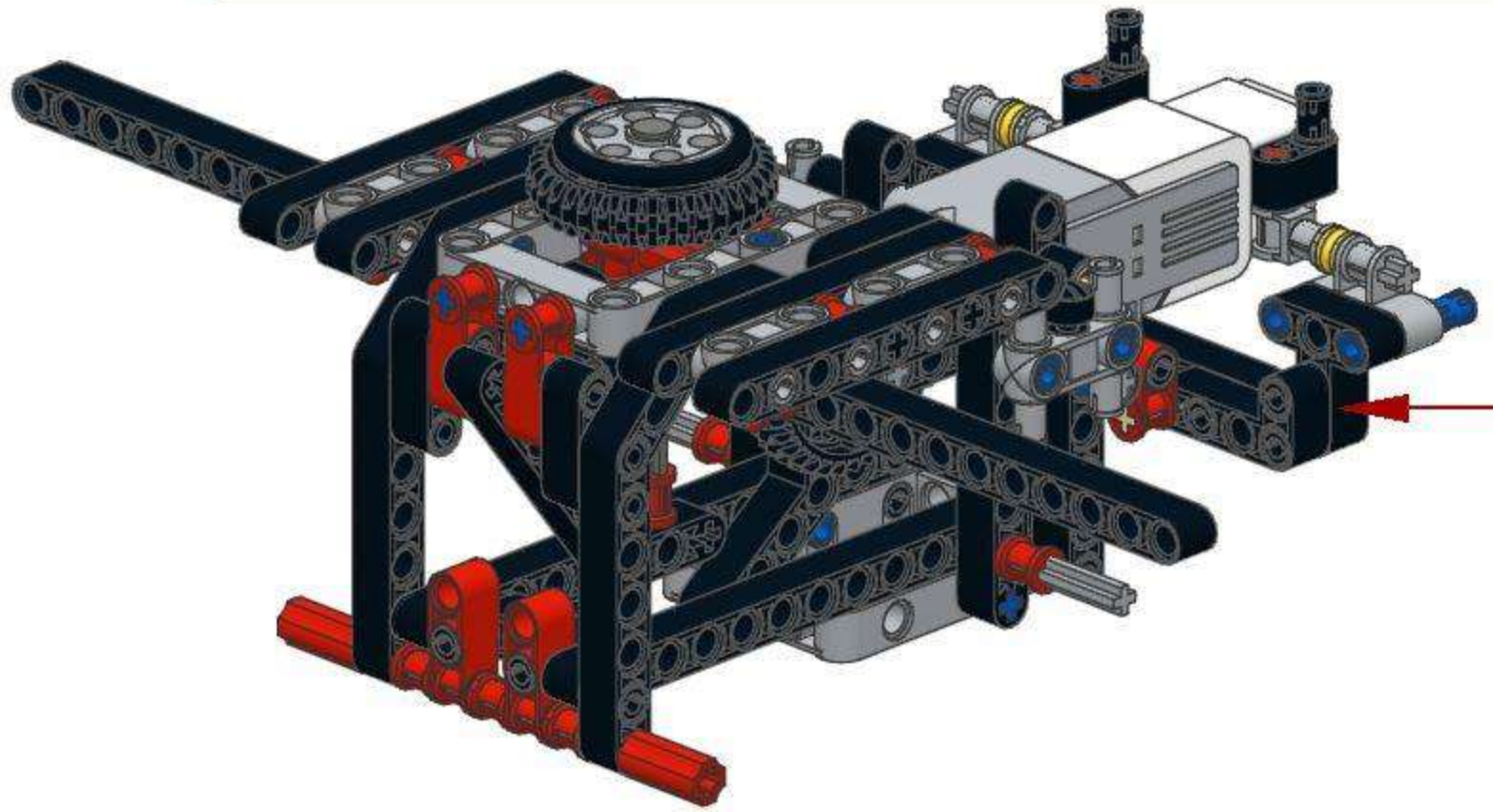
1  2  3 

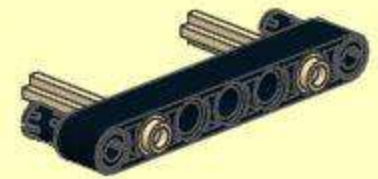
27

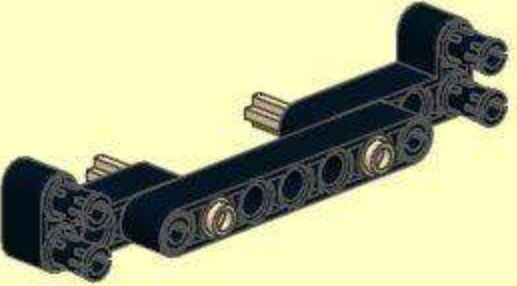


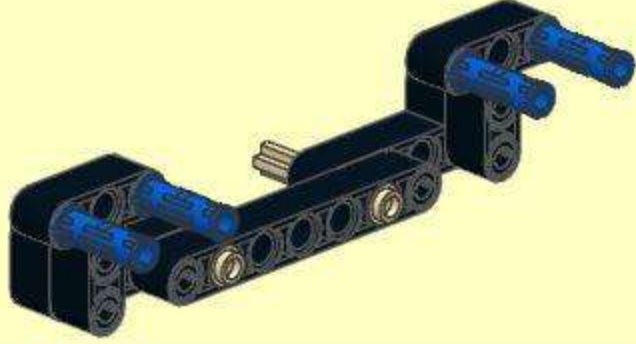
# 28

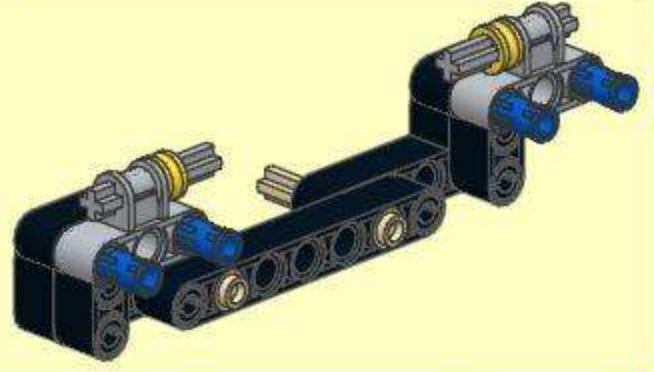
								
<b>4x</b>	<b>7</b>	<b>2x</b>	<b>2x</b>					<b>2x</b>
				<b>2x</b>	<b>2x</b>	<b>2x</b>	<b>2x</b>	<b>8x</b>
<b>1x</b>	<b>2x</b>	<b>2x</b>	<b>2x</b>	<b>2x</b>	<b>2x</b>	<b>2x</b>	<b>2x</b>	<b>8x</b>

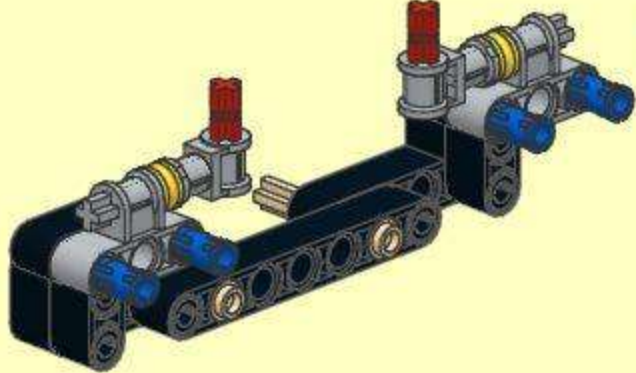


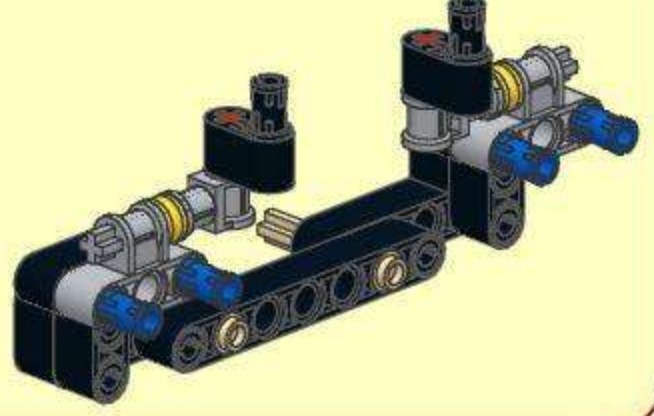
**1** 

**2** 

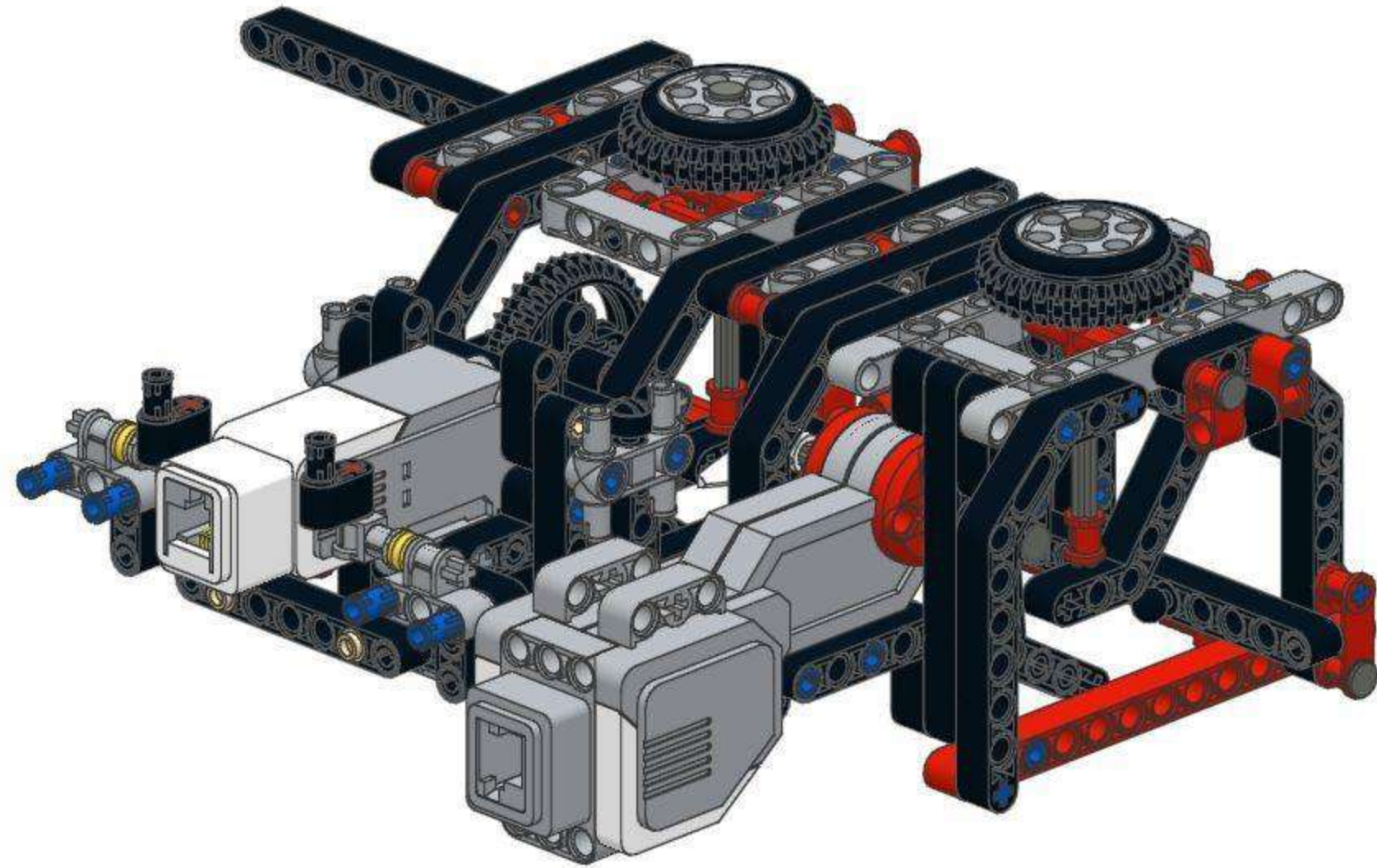
**3** 

**4** 

**5** 

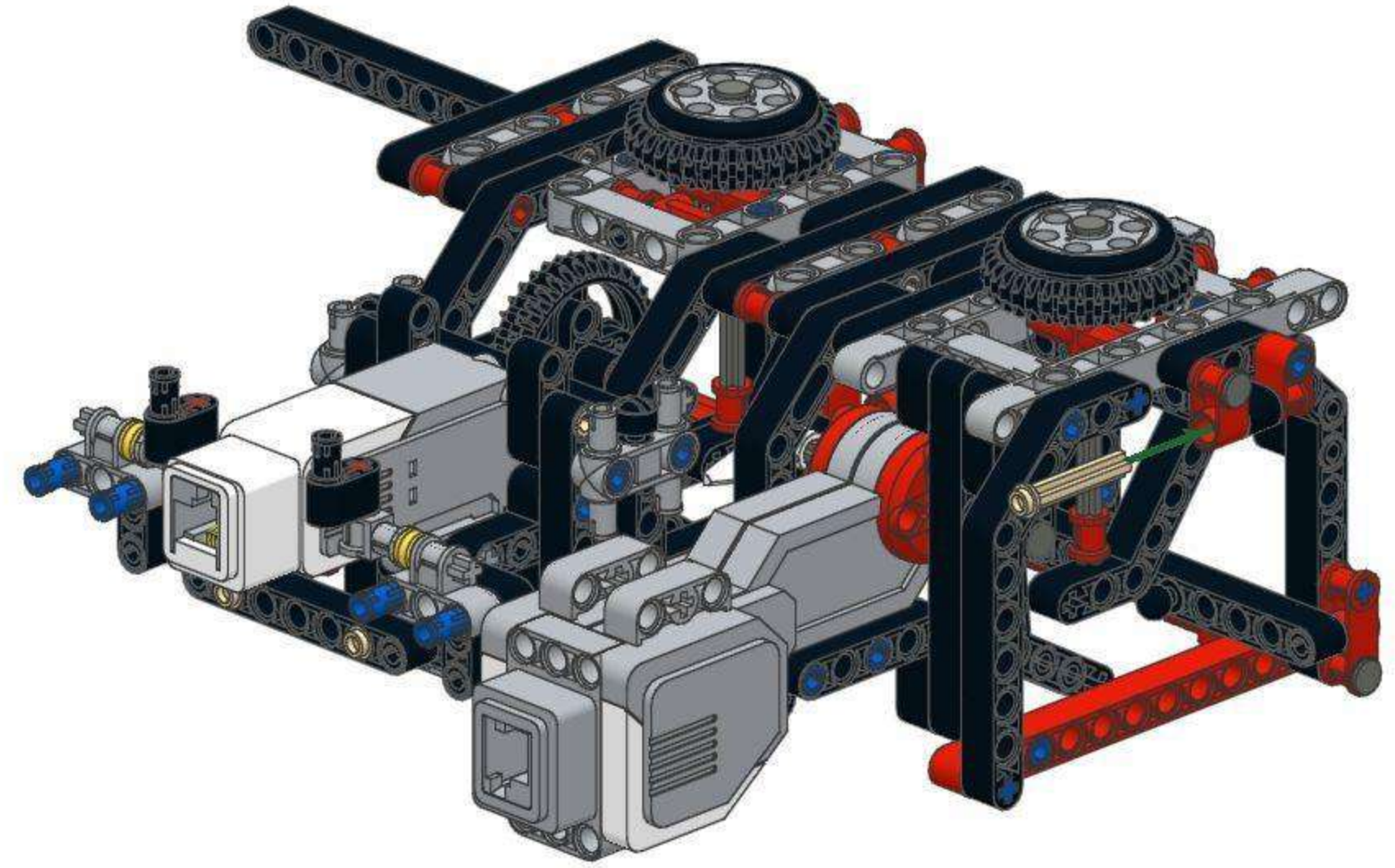
**6** 

2

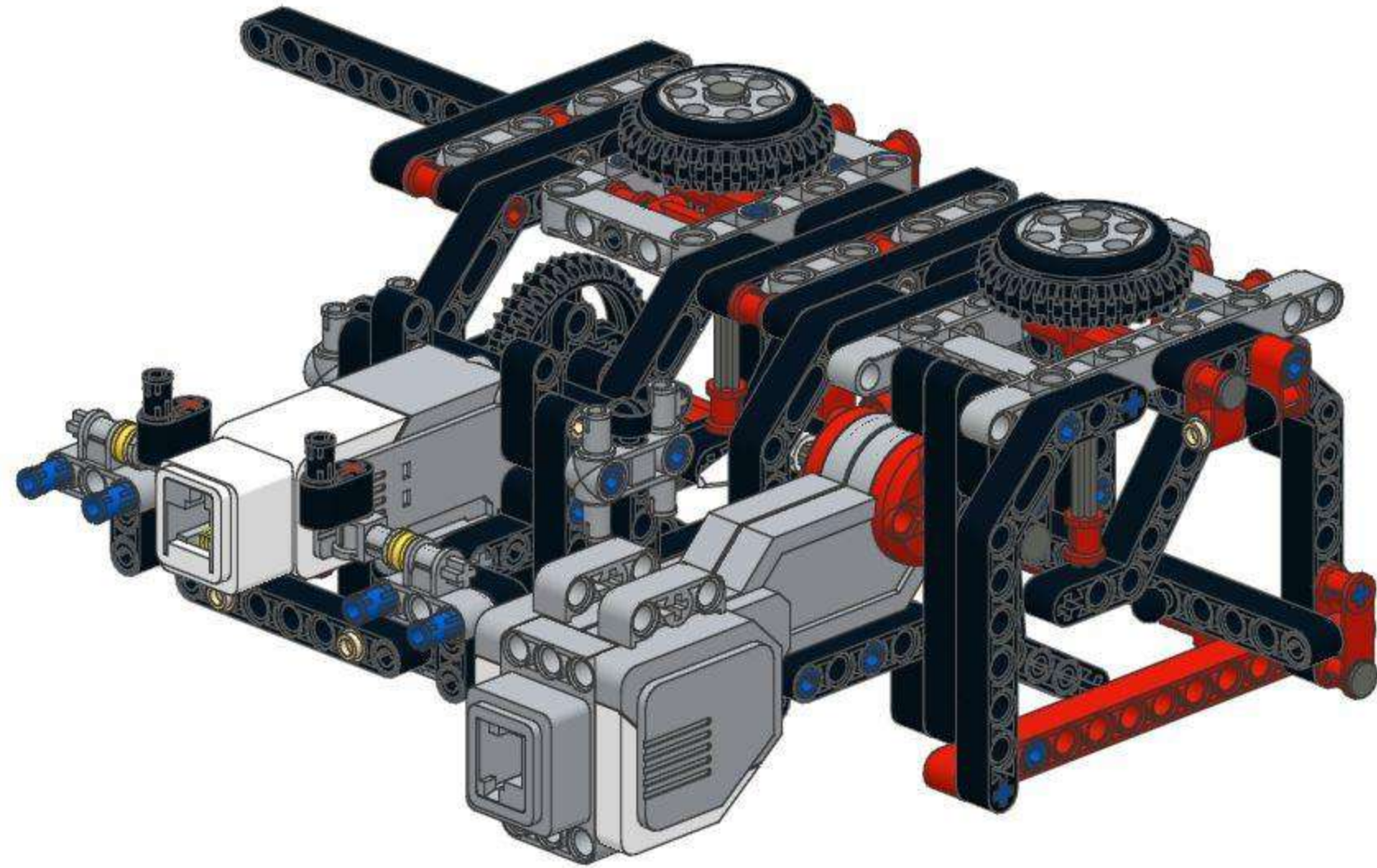


3

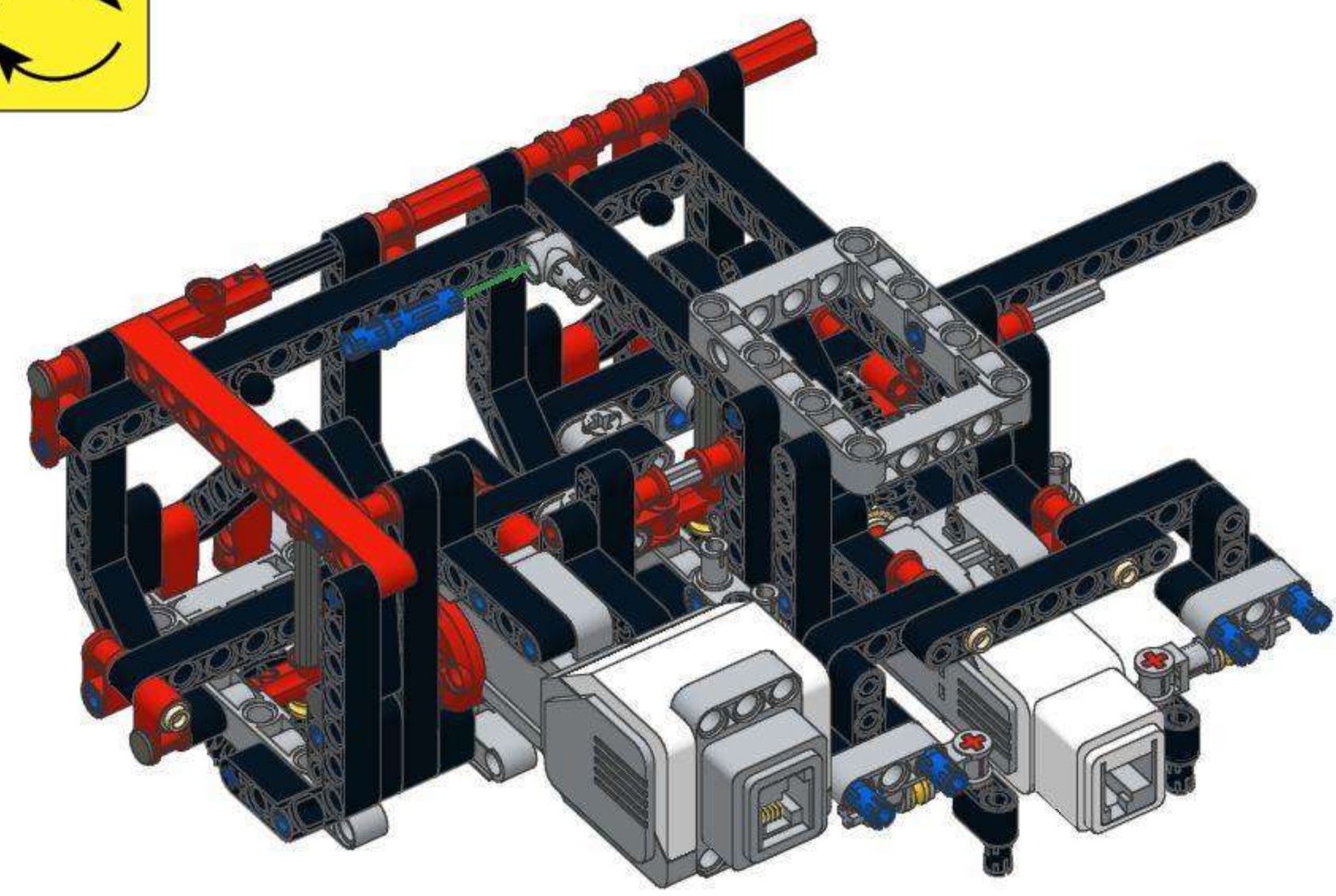
3  
1x



4

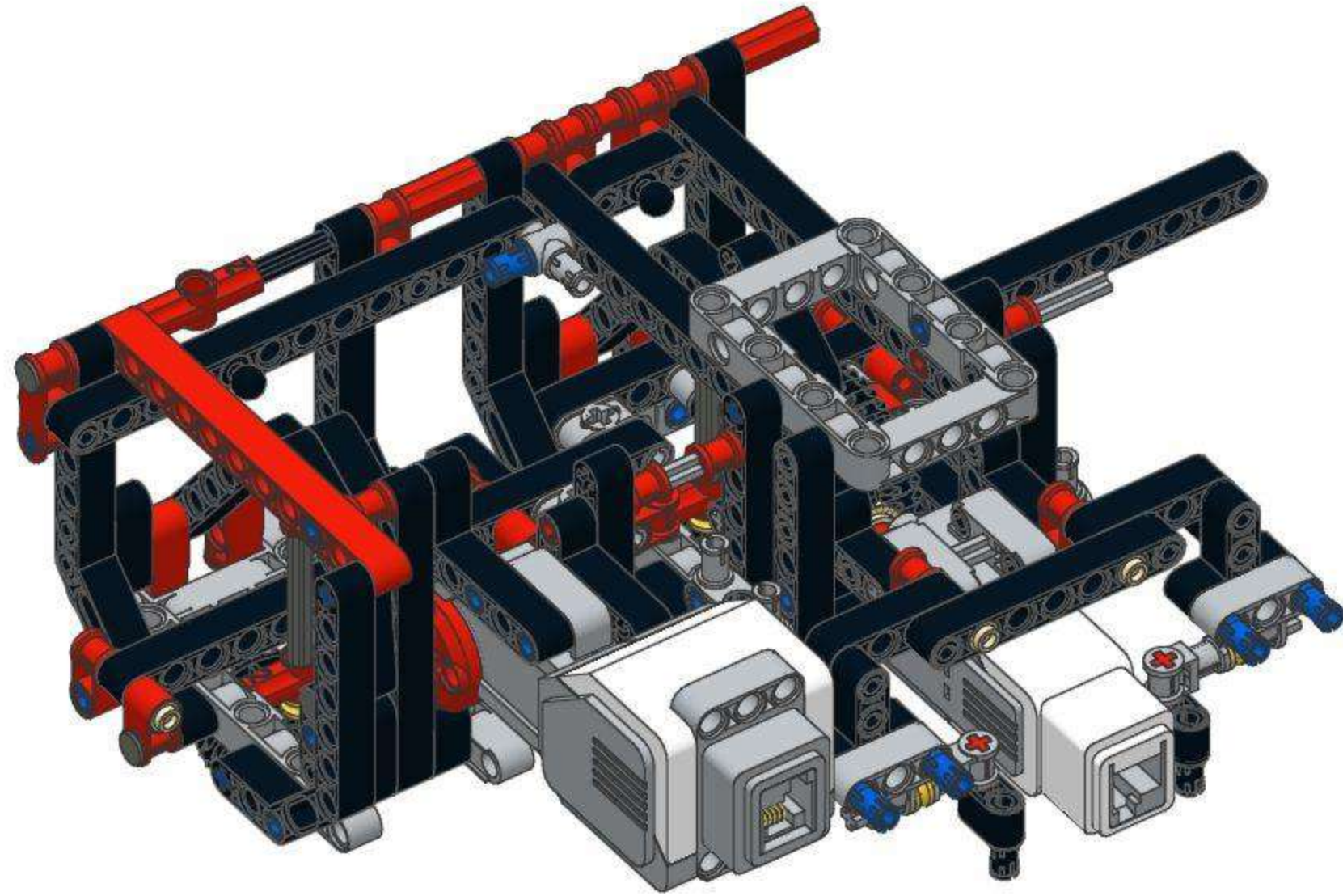


5





6



1



2



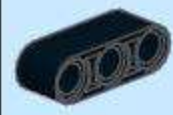
3 1x  
1x 1x

This block contains a list of parts for step 2. It features a red number '3' followed by '1x', and two instances of '1x' below it. The parts are: a grey axle with a black bush, a grey 2-hole Technic brick, and a blue Technic axle with a blue bush.



3

3



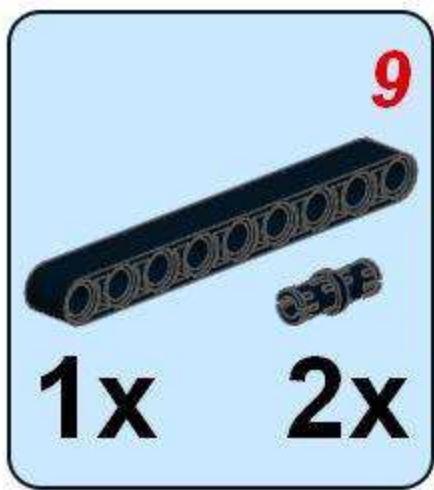
1x



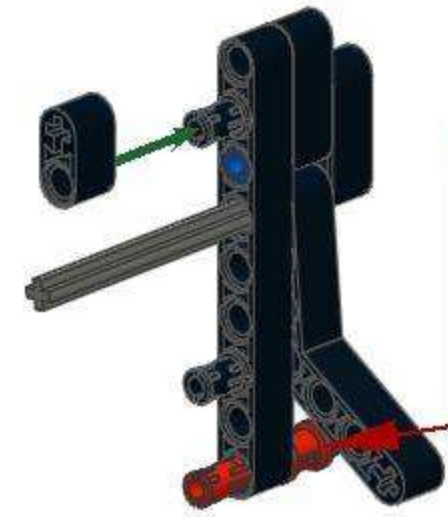
1x



4



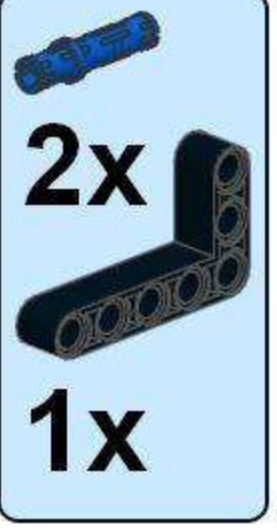
5



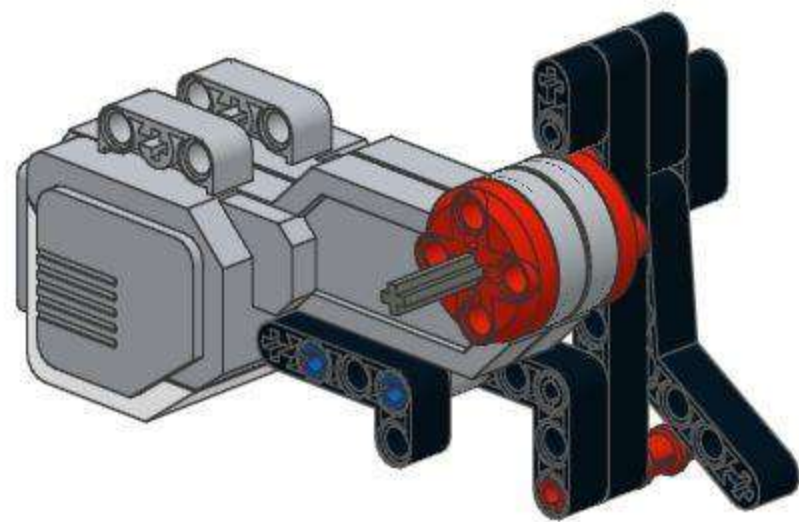
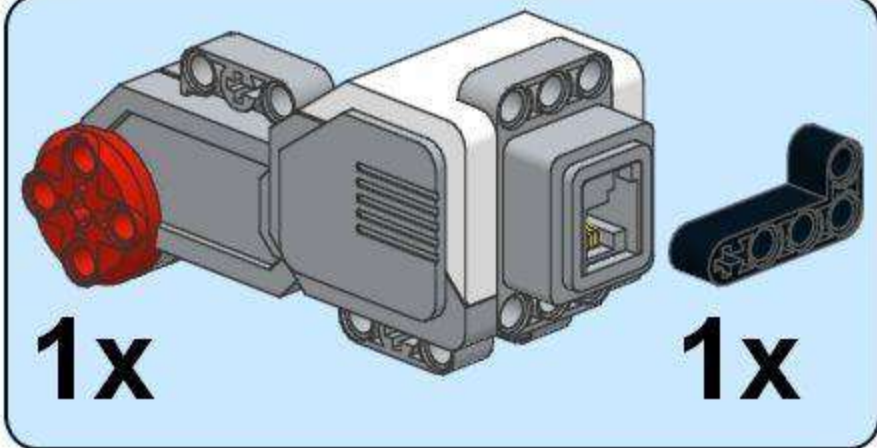
6

2x

1x



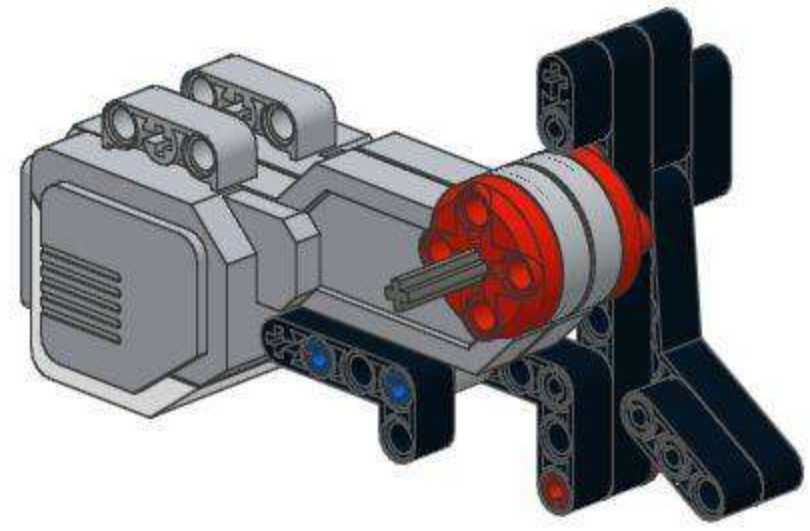
7



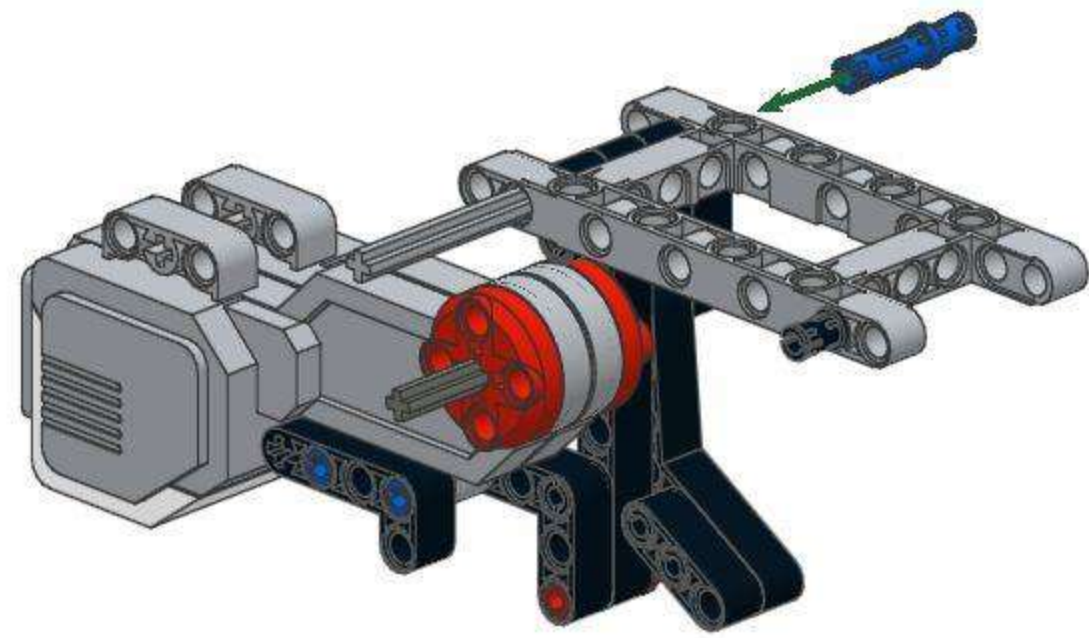
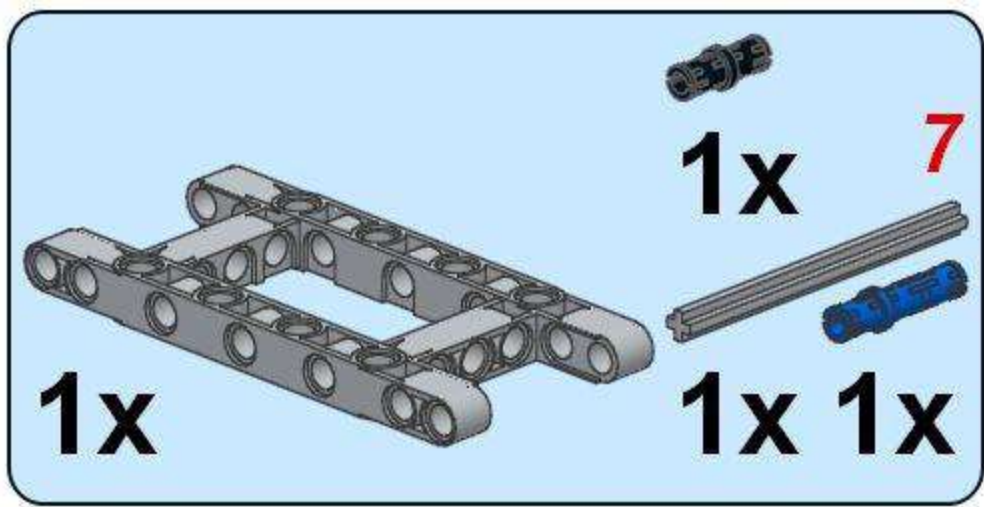


8

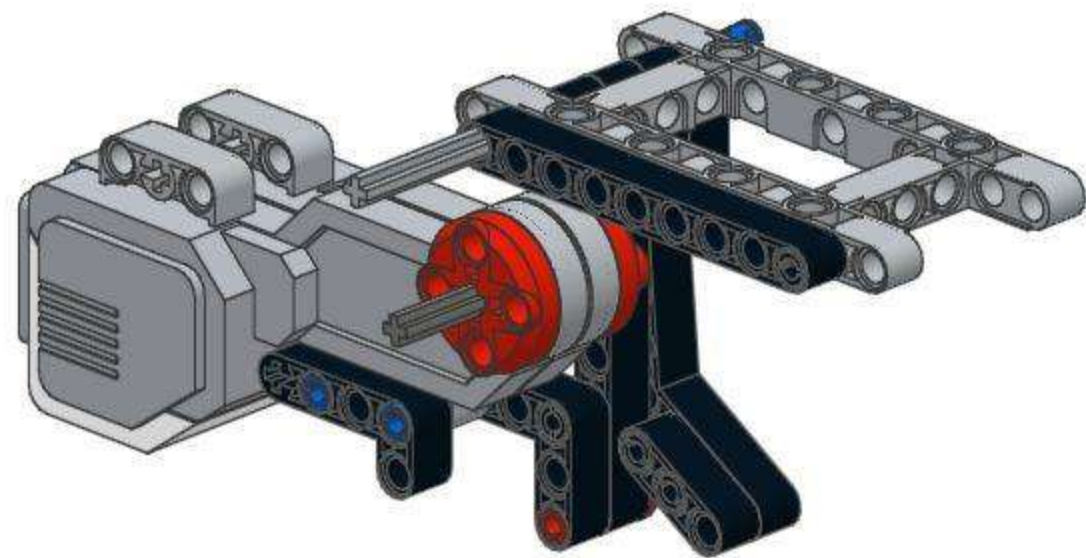
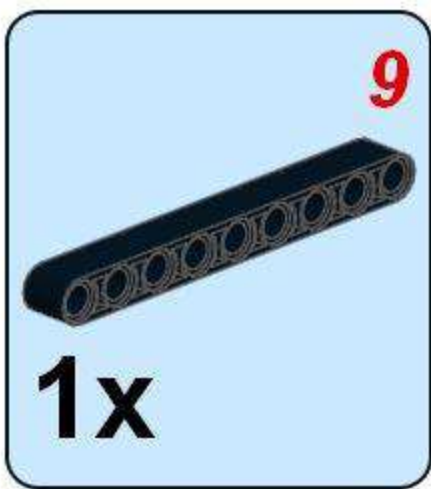
3  
1x 2x



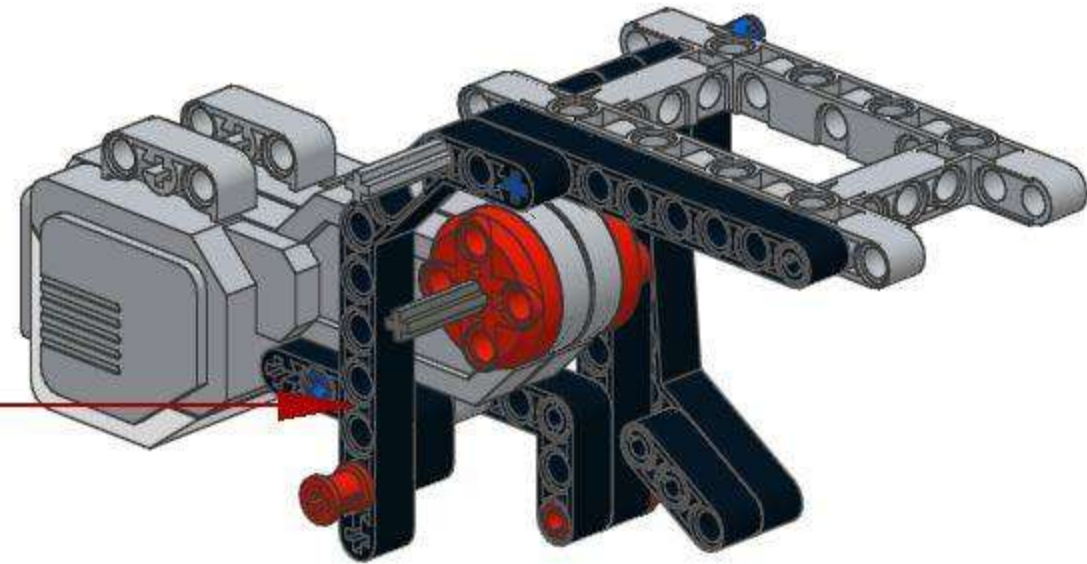
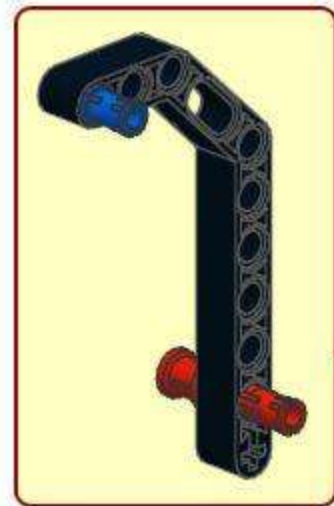
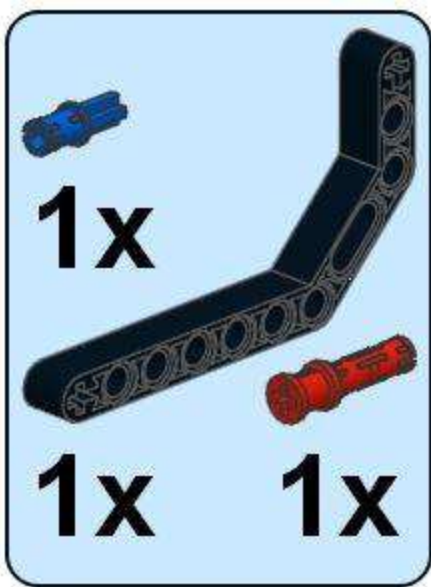
9



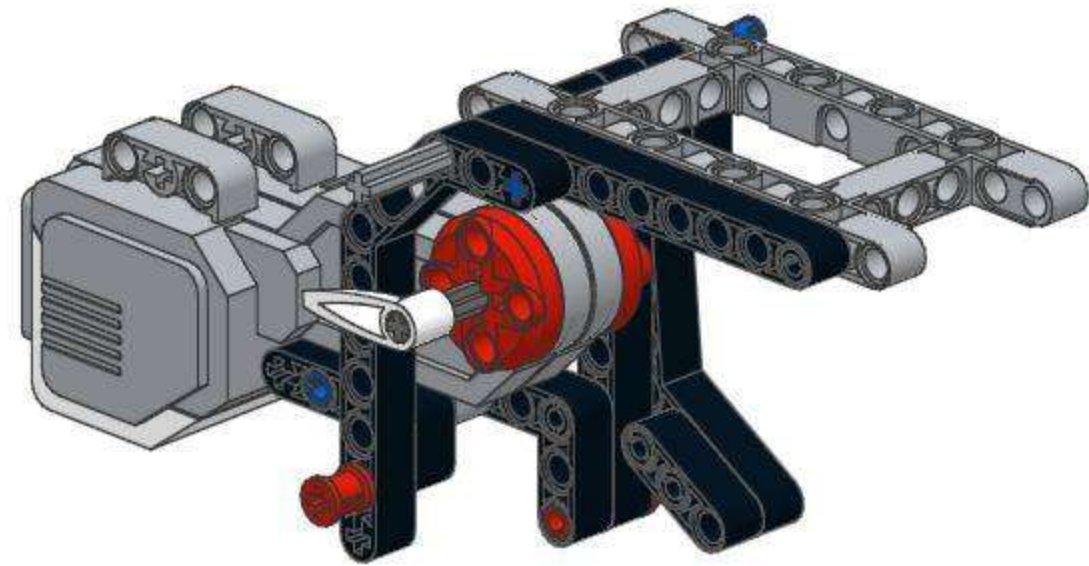
10



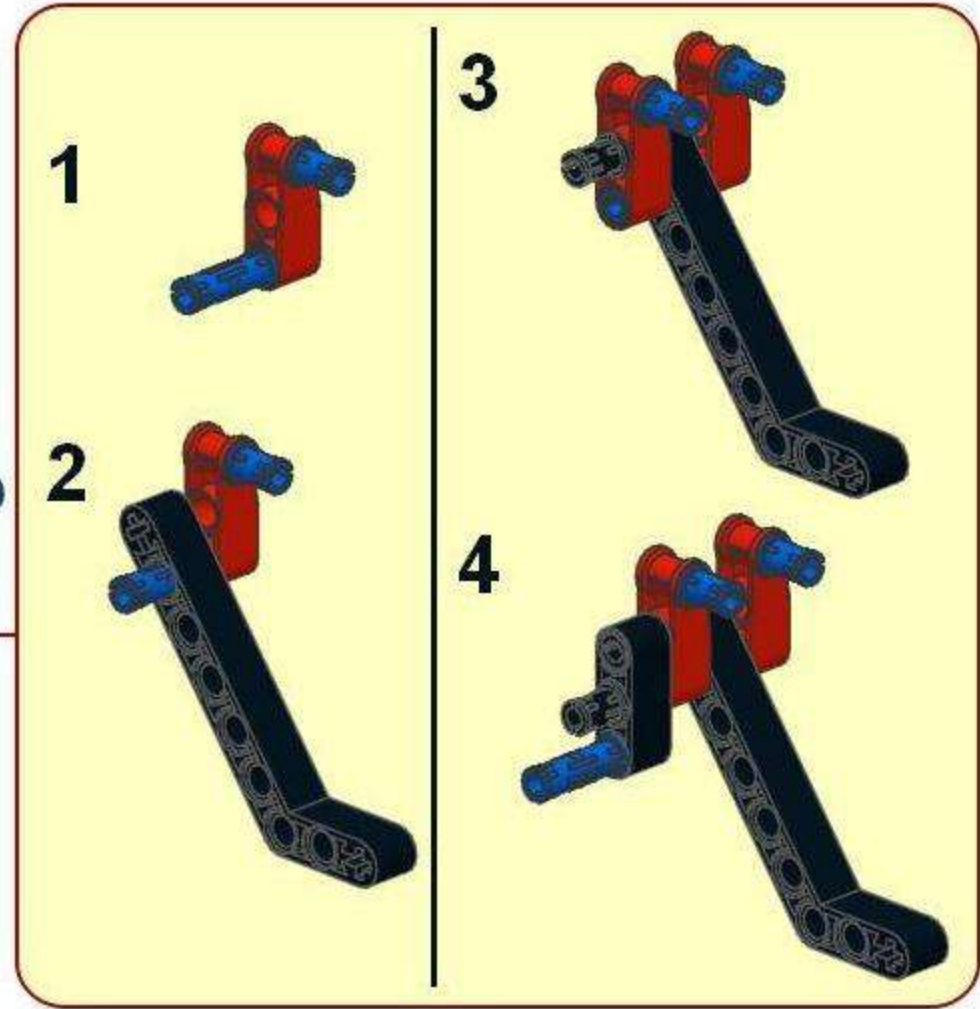
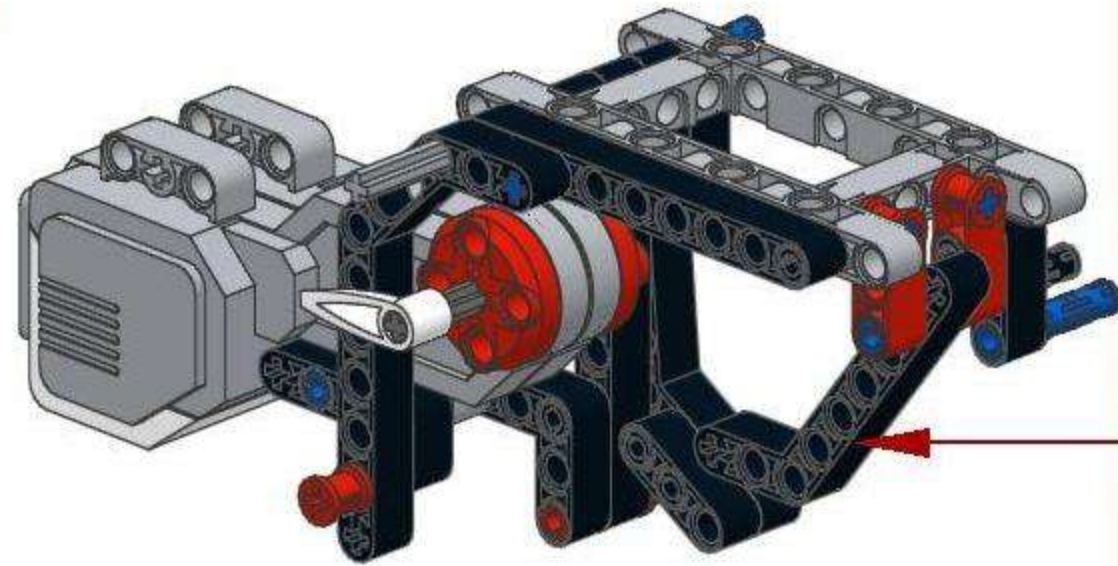
11



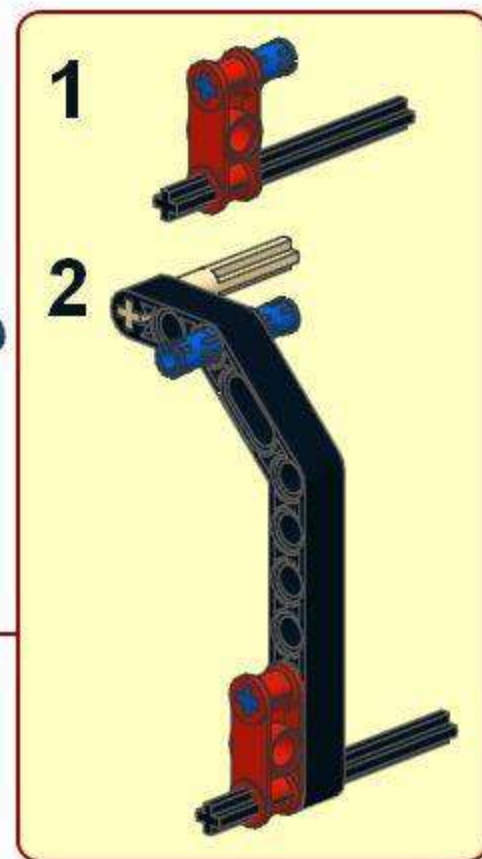
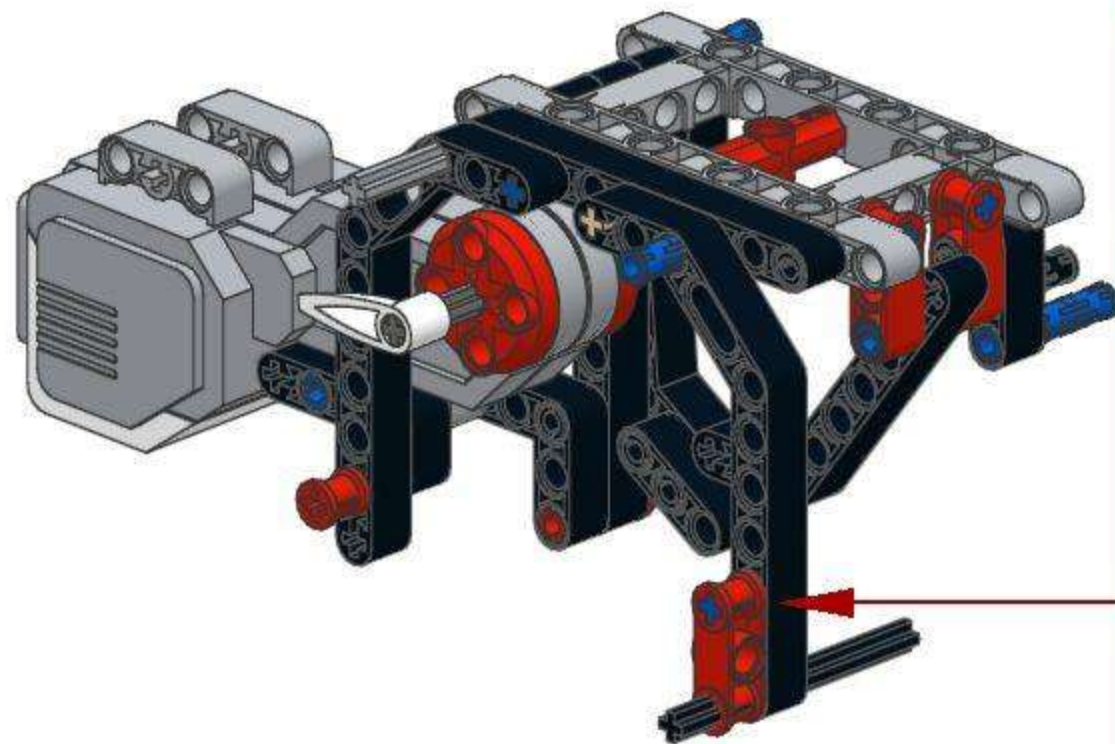
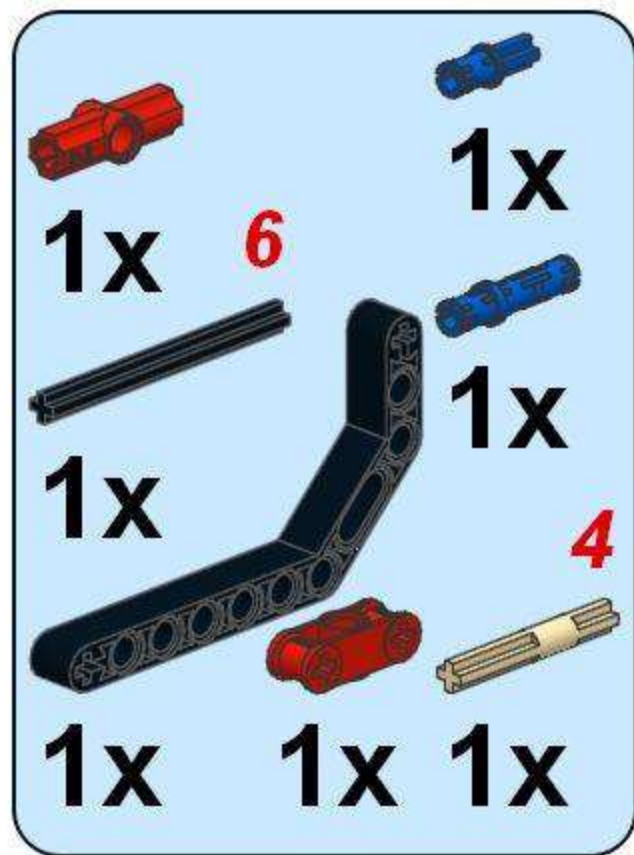
12   
1x



# 13



# 14




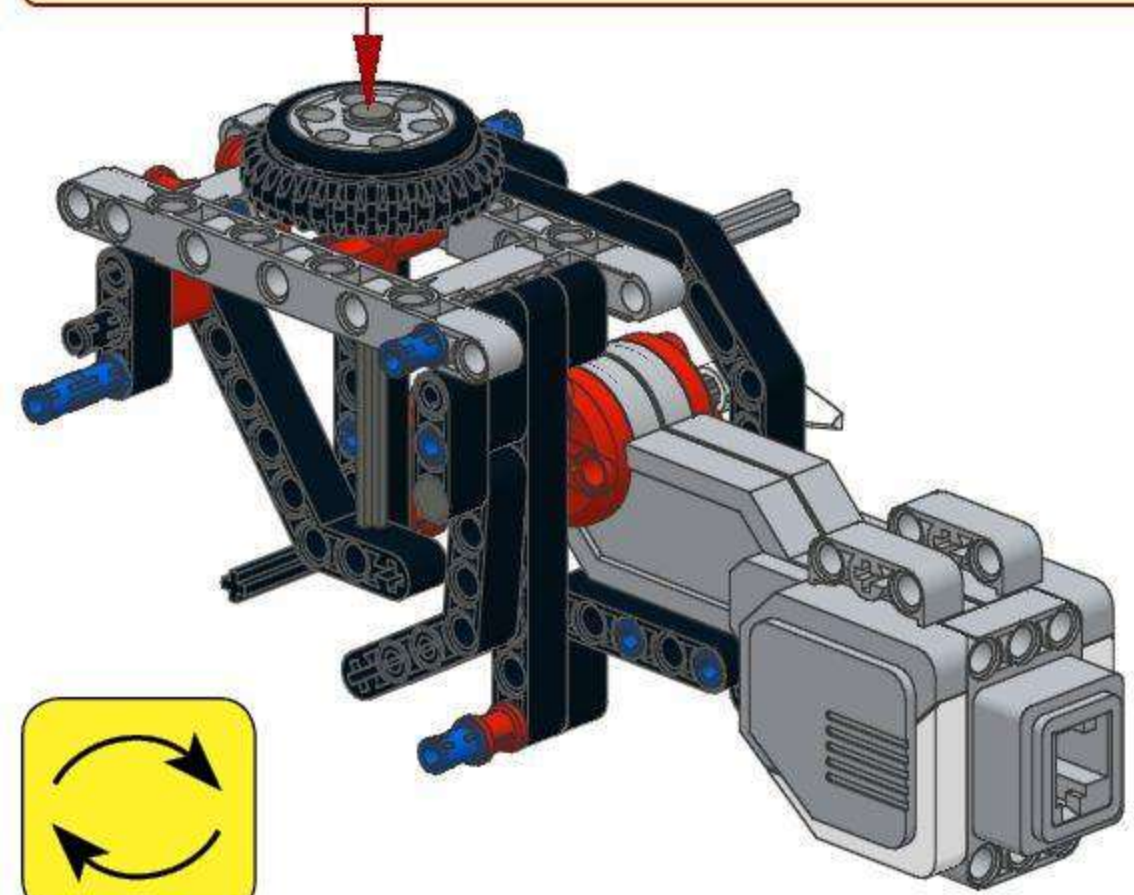
15



1x  1x   
1x  8   
1x  1x  1x




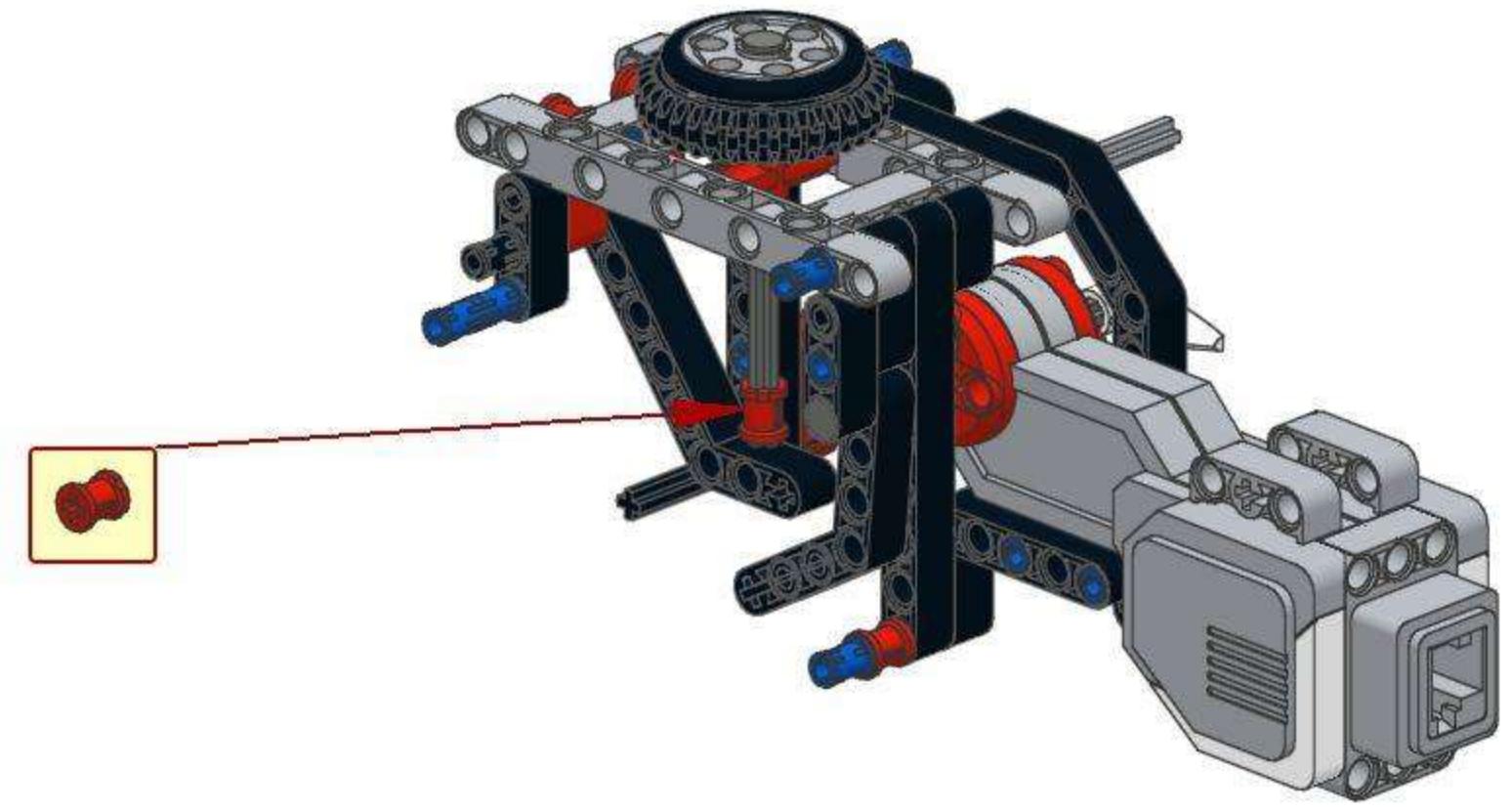
1  2  3 



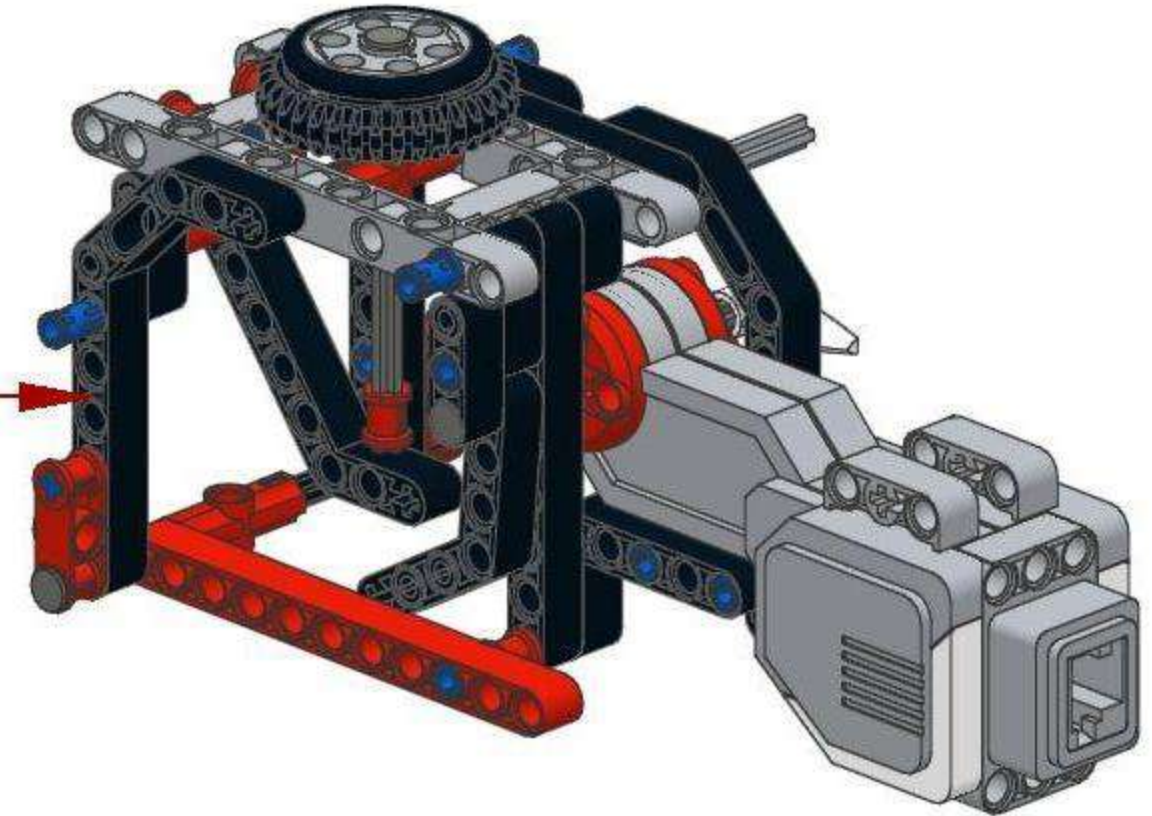
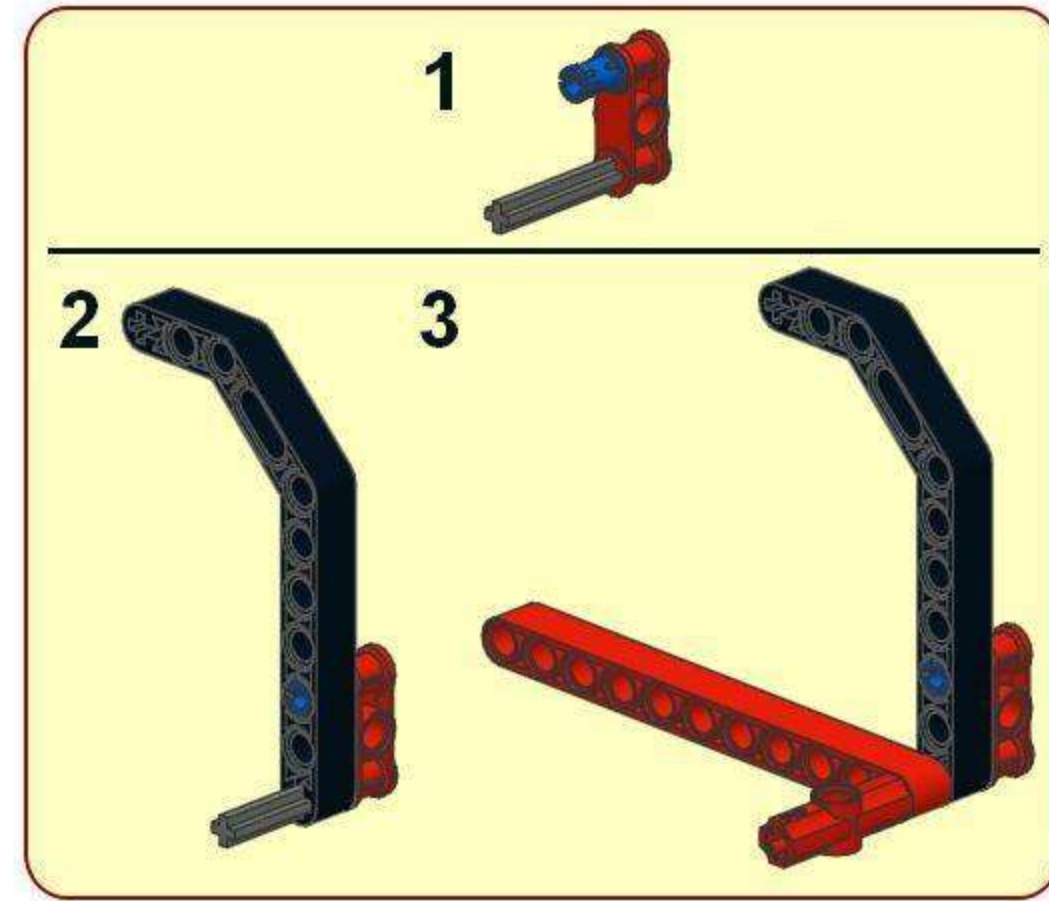
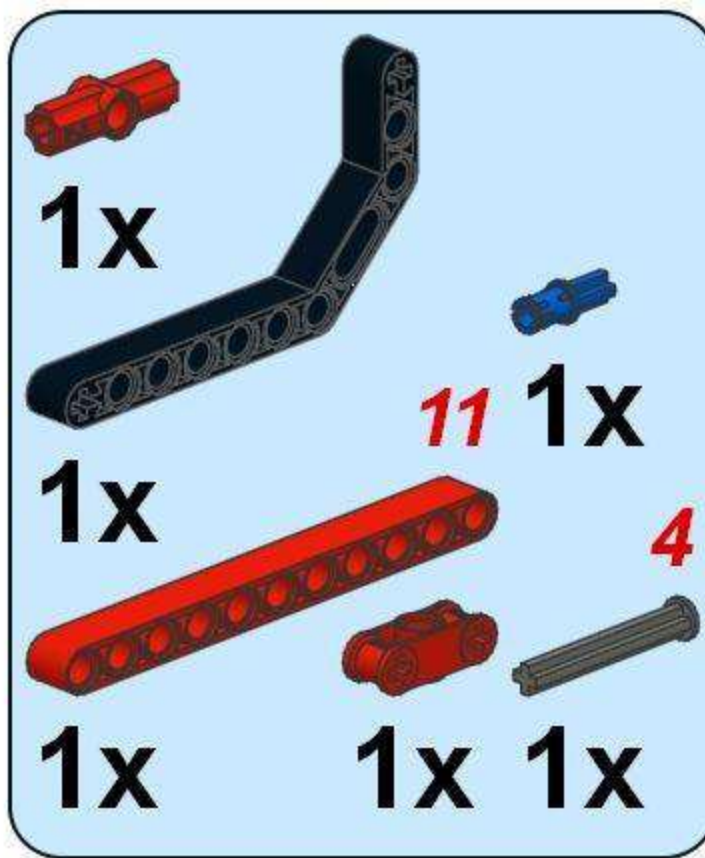
A detailed perspective view of the assembled mechanism. A red arrow points to the top gear assembly. The mechanism includes a grey motor, a grey frame, and various black and blue components. A yellow square icon with two circular arrows indicates rotation.



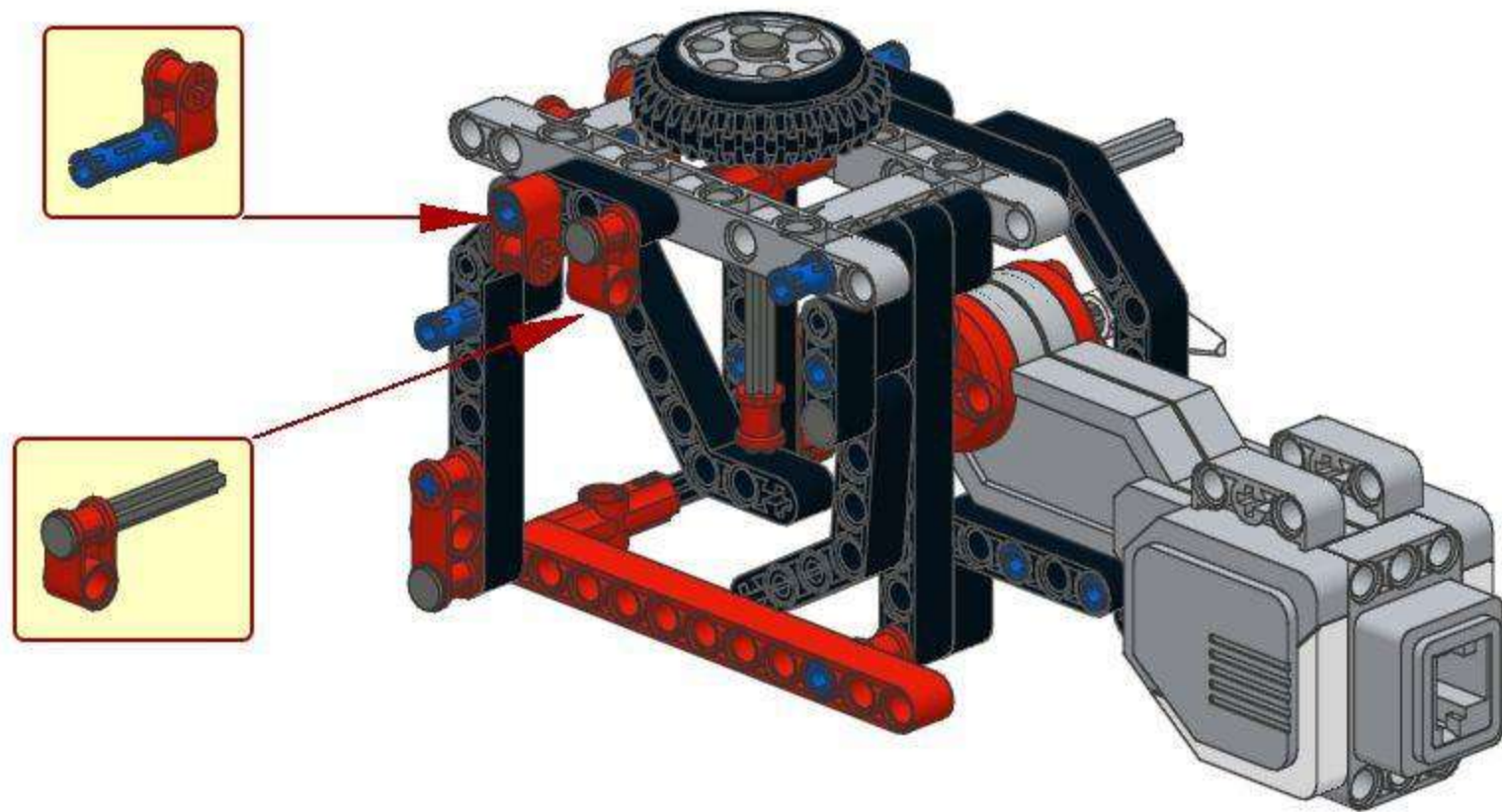
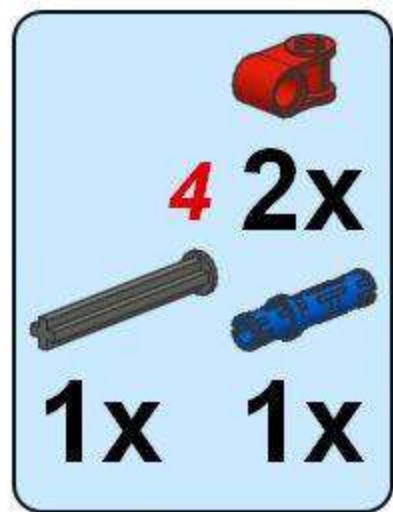
16   
1x



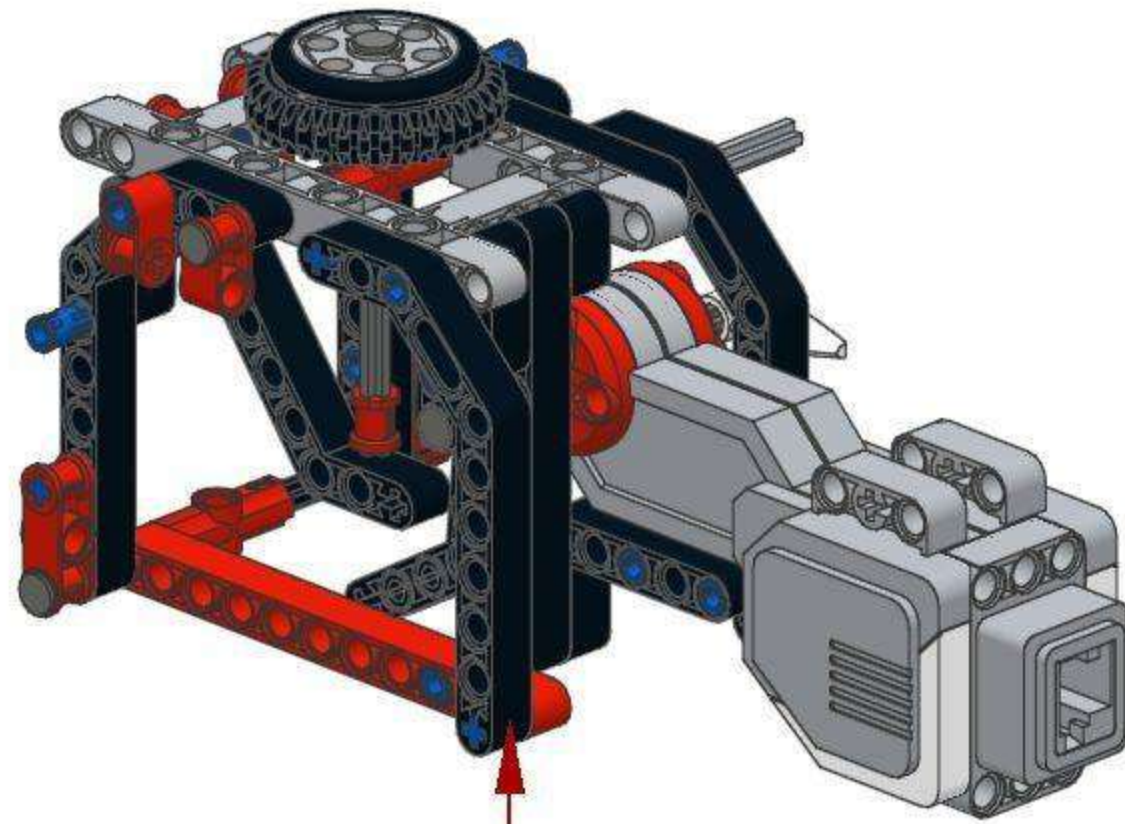
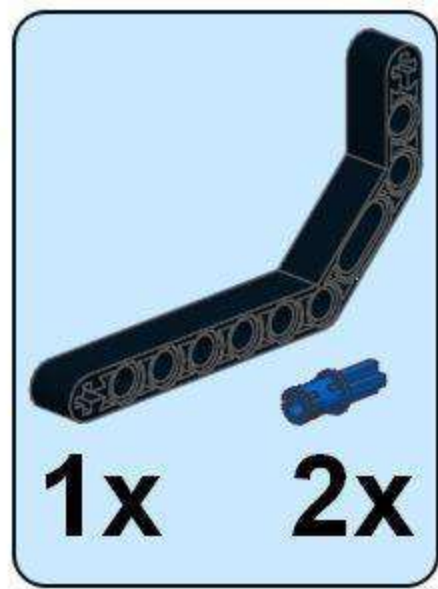
17



18



19



20



13

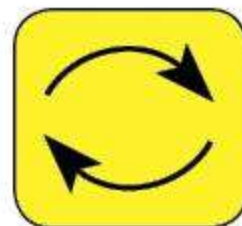
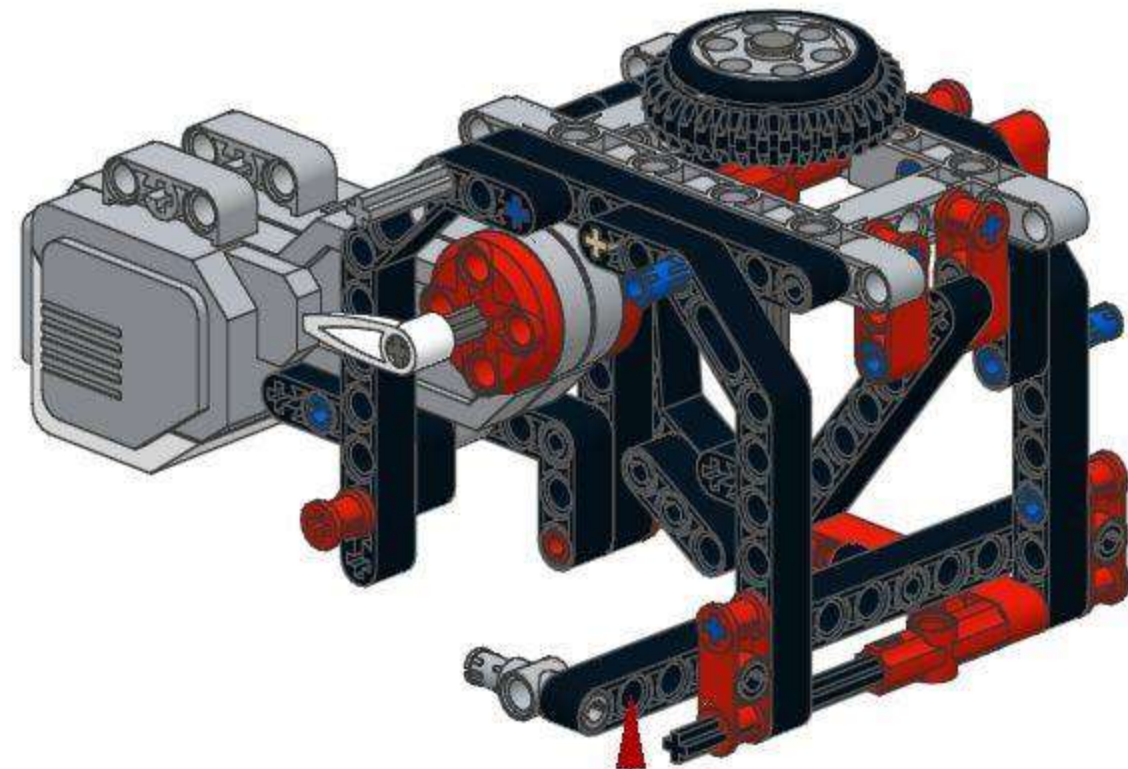
2x



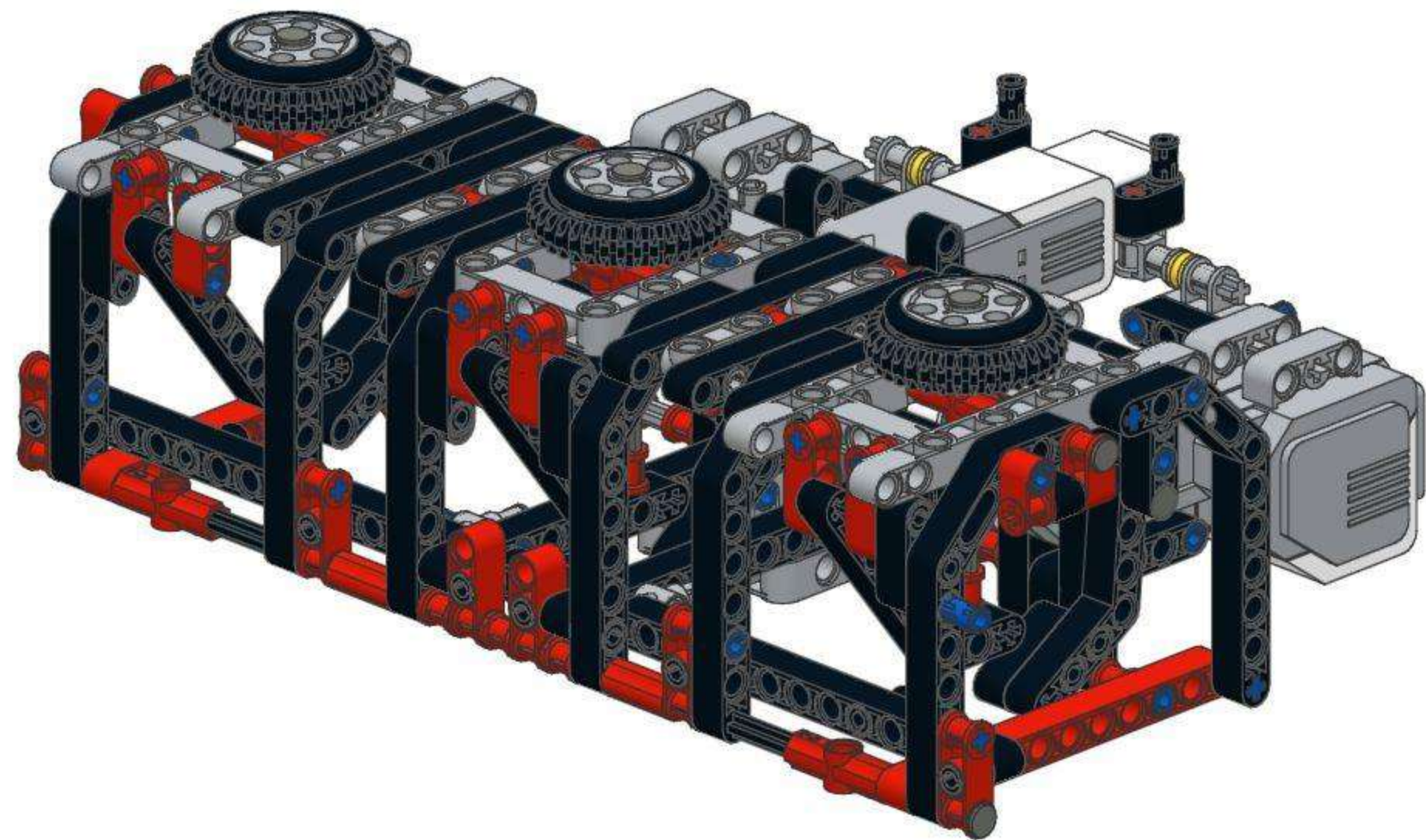
1x



1x 1x

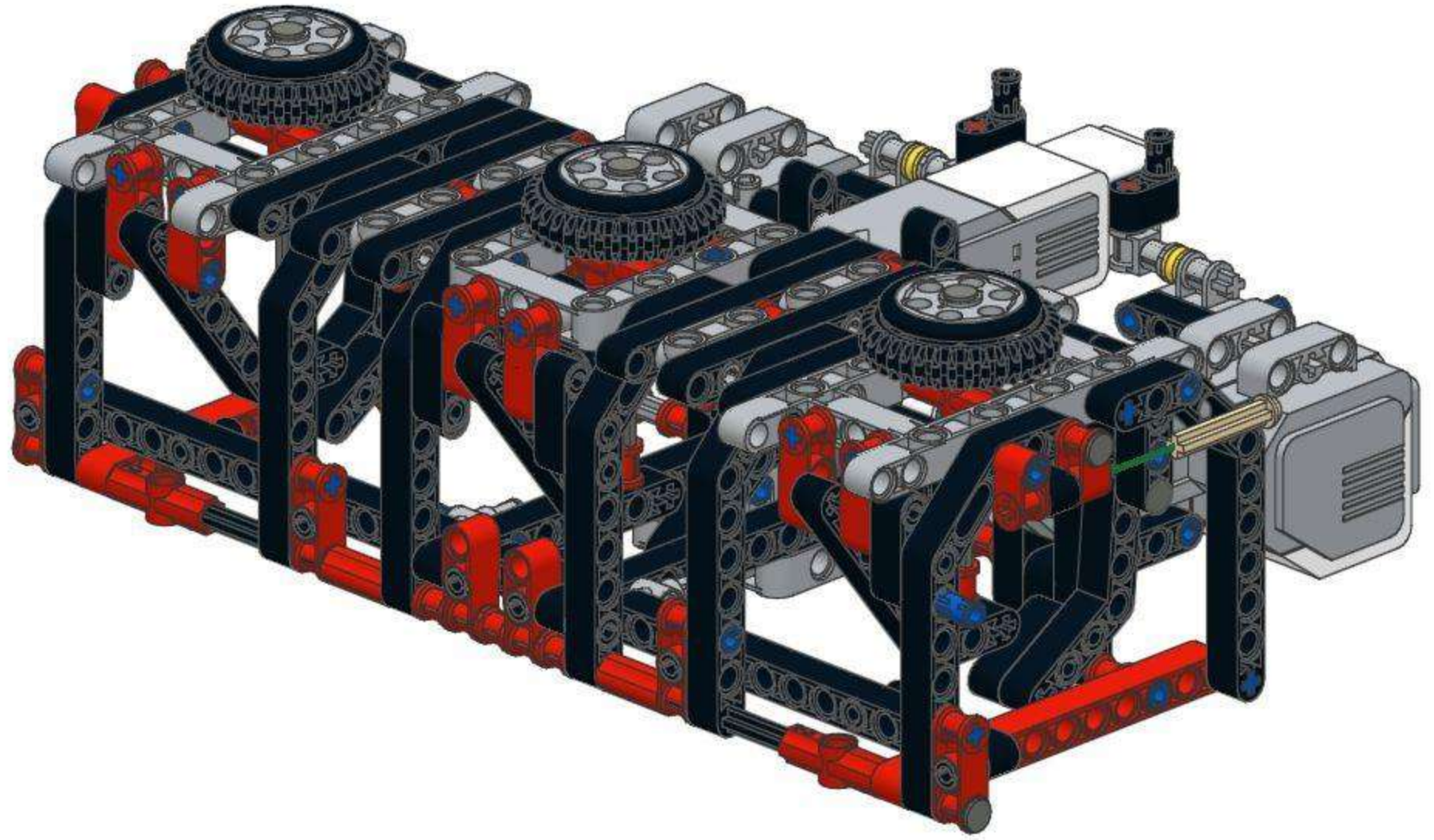


7

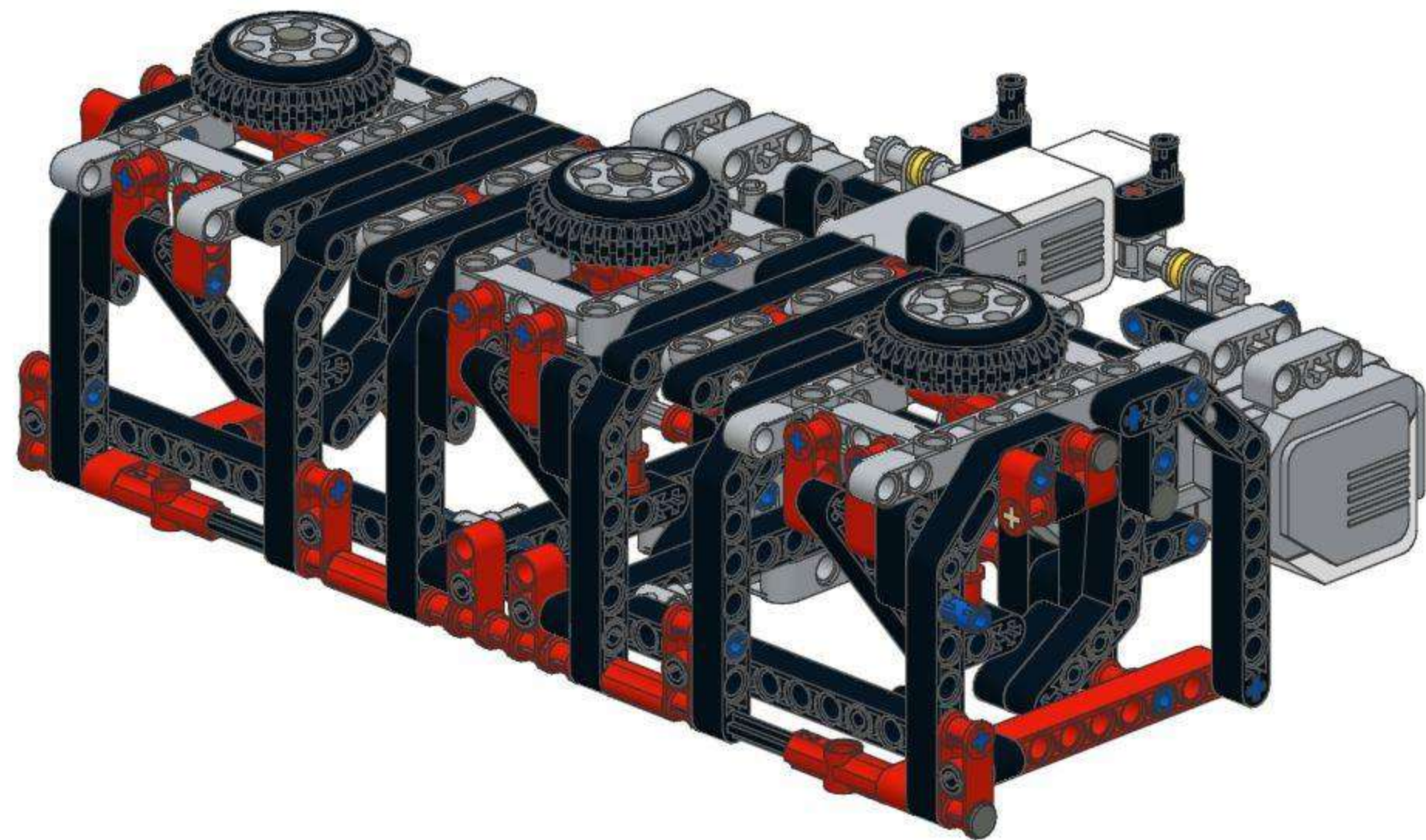


8


3  
1x

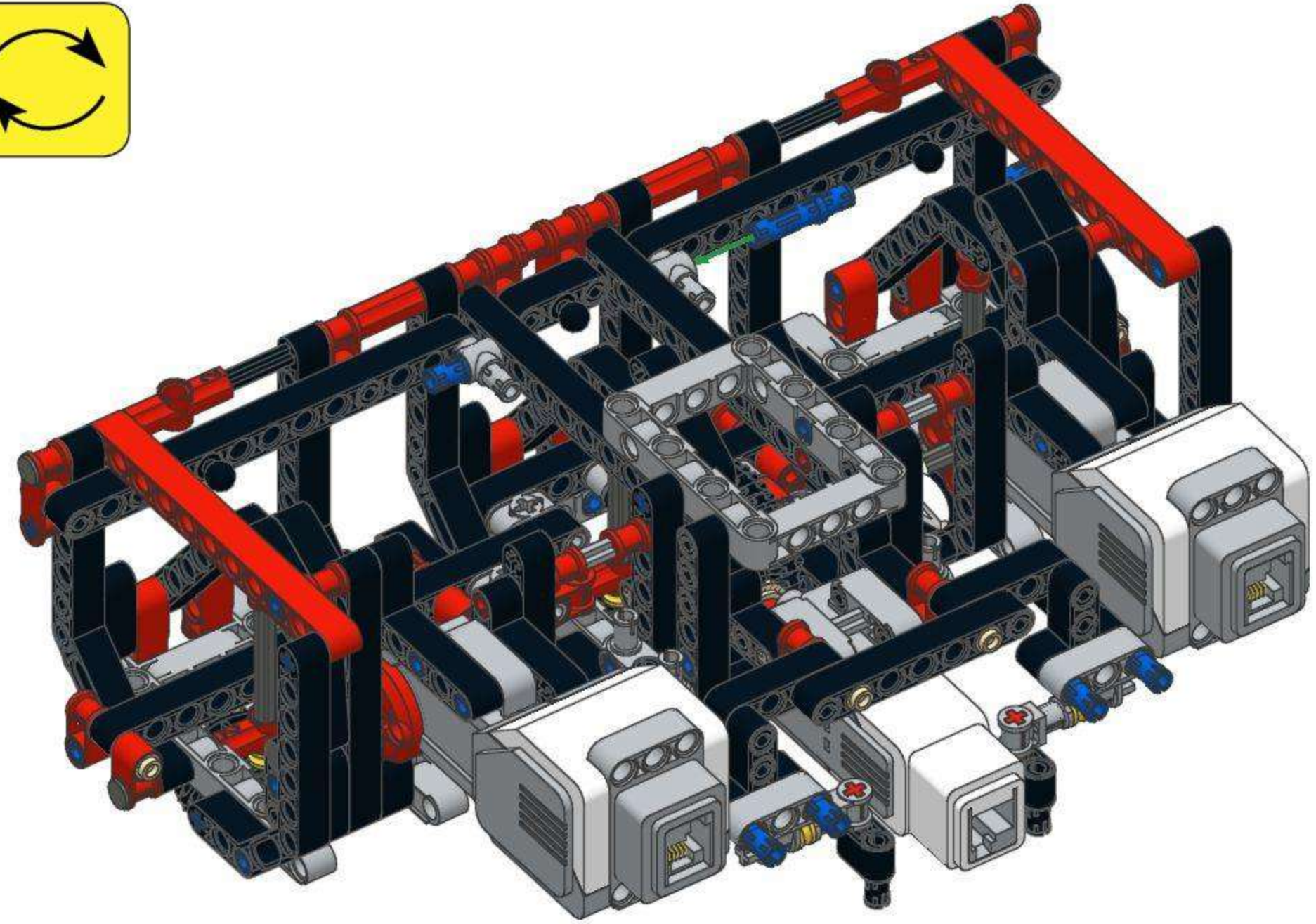


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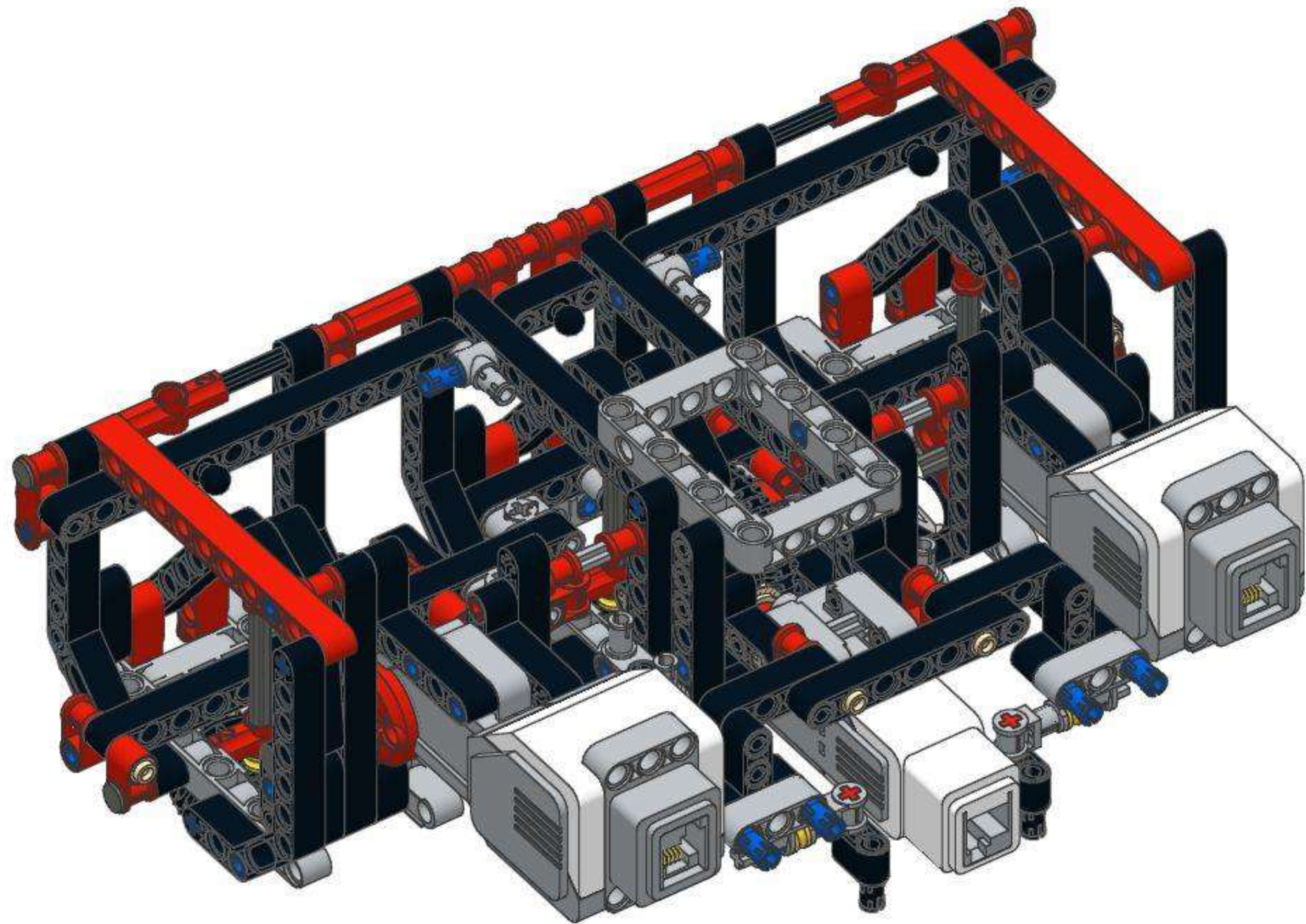




10   
1x

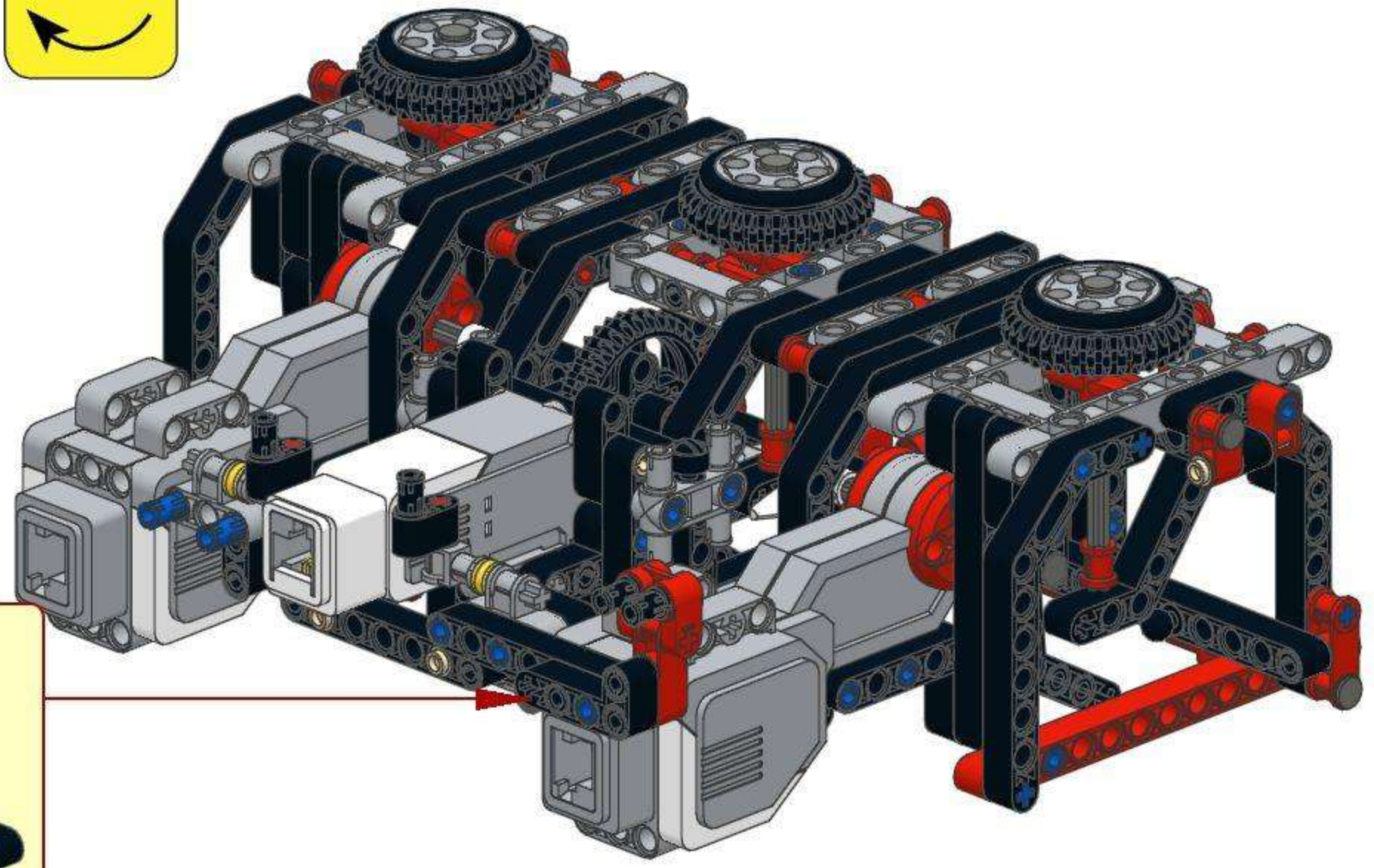


11



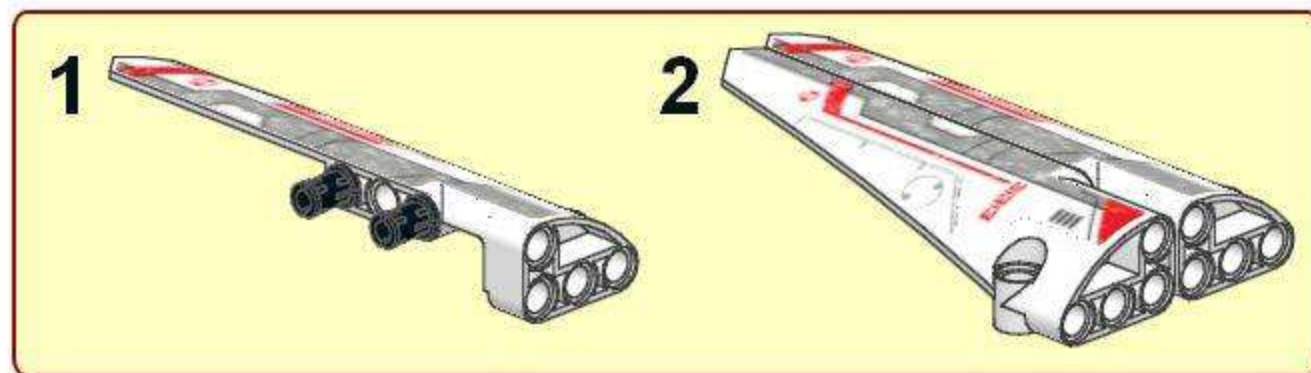
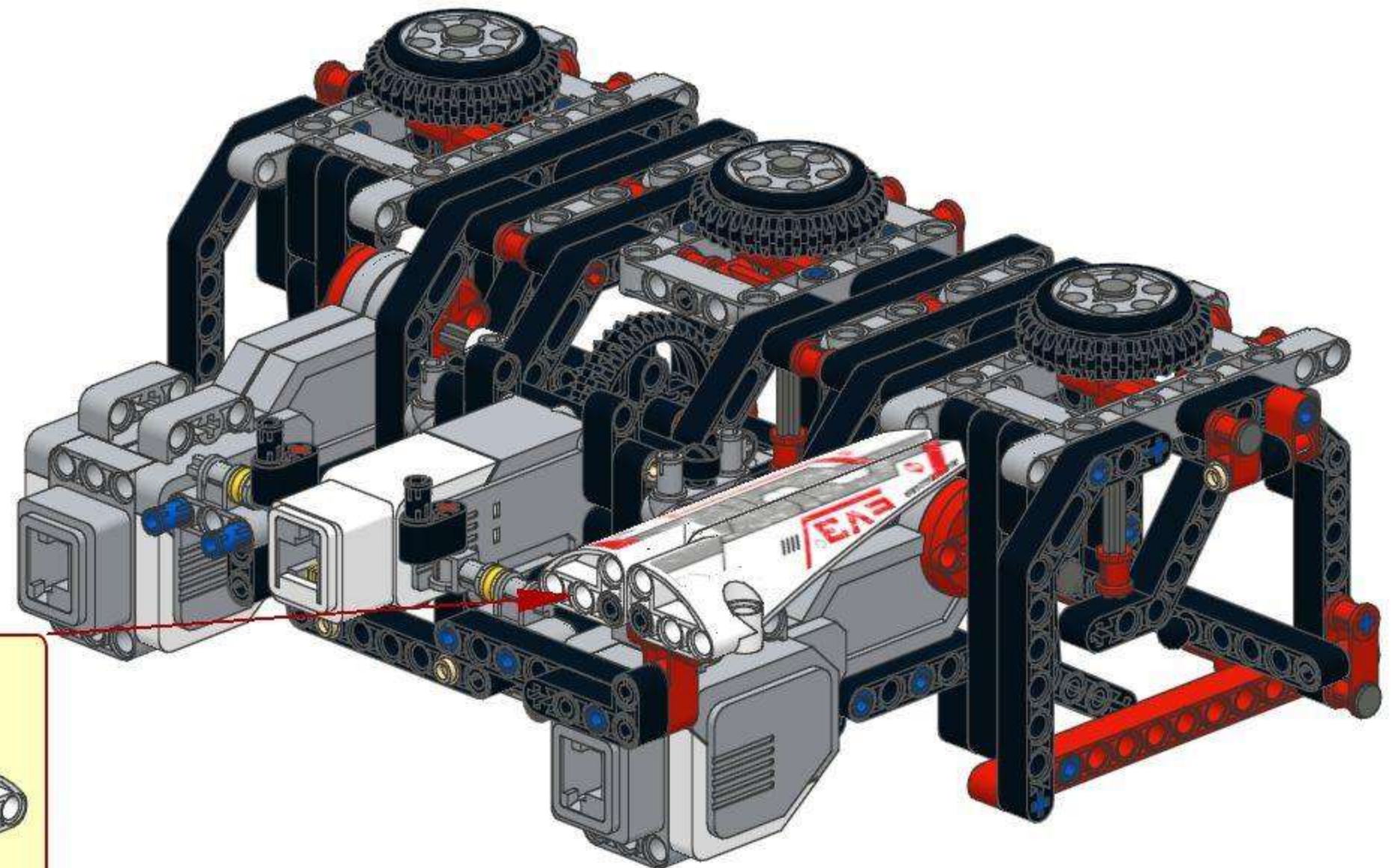
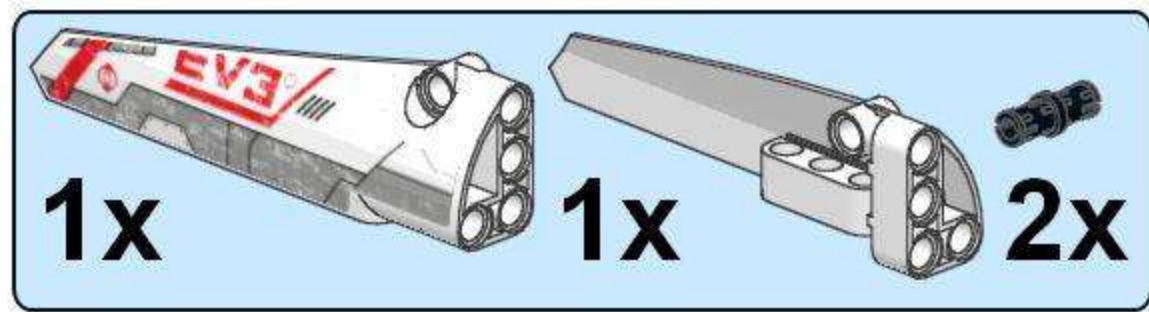
# 12

<b>1x</b>	<b>6x</b>	<b>1x</b>
<b>1x</b>	<b>1x</b>	<b>1x</b>
<b>1x</b>	<b>1x</b>	<b>1x</b>

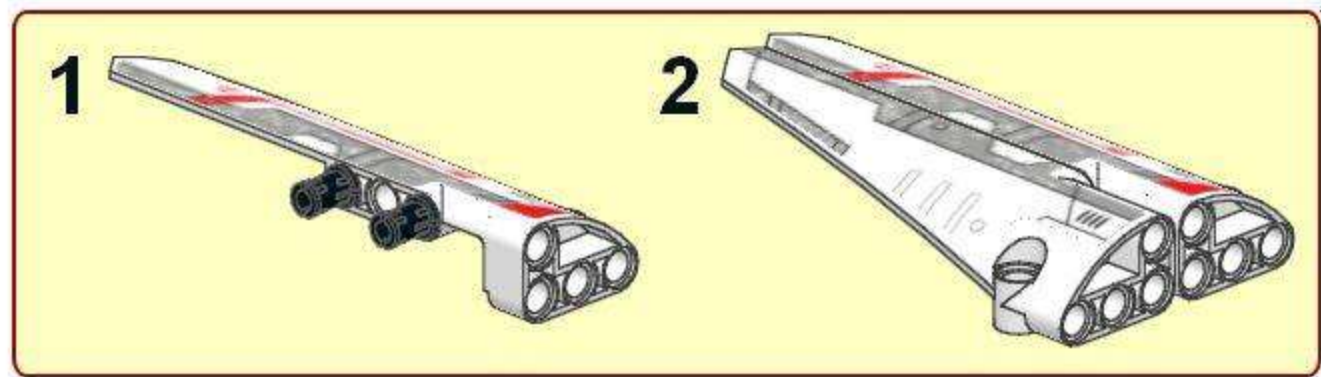
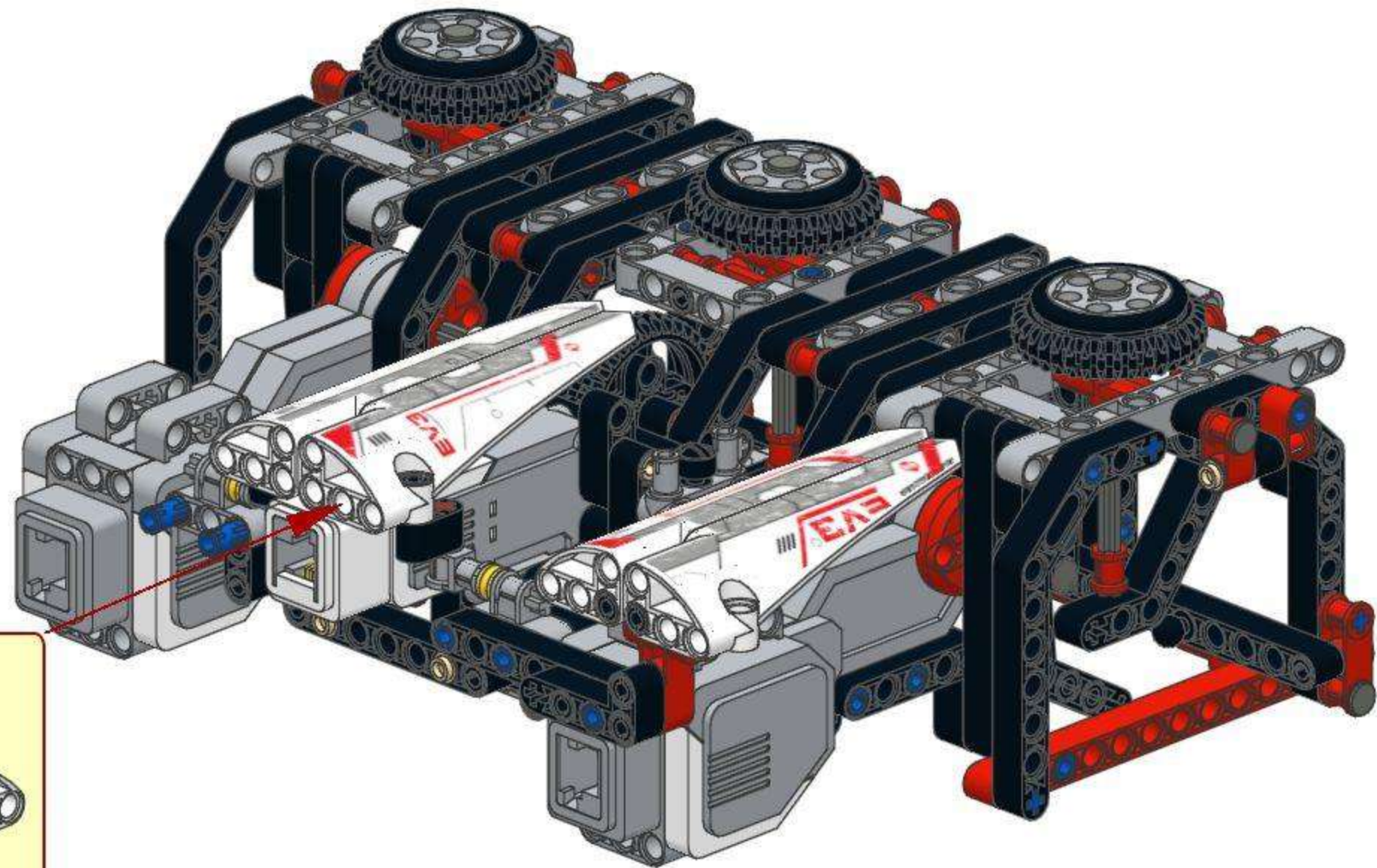
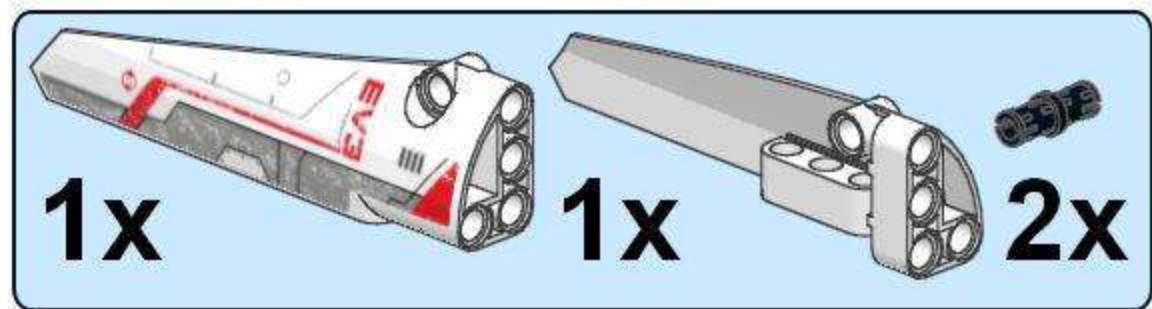


- 
- 
-

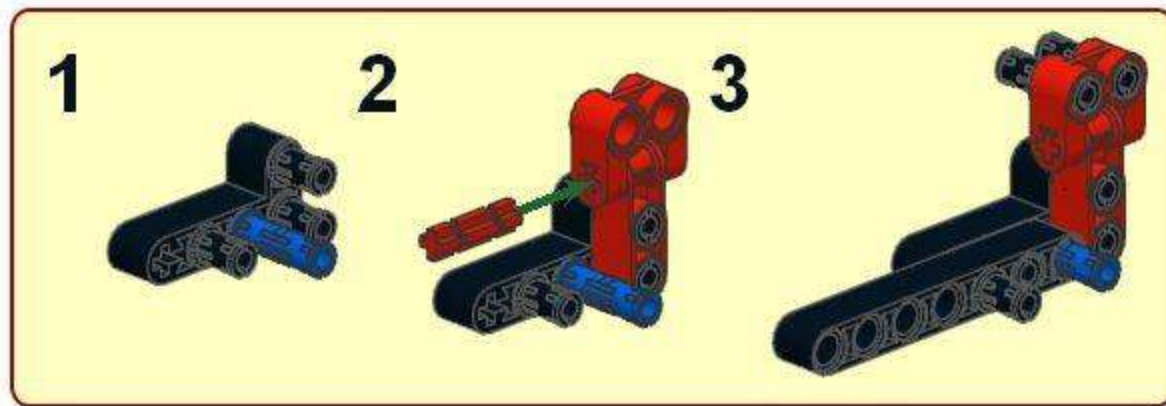
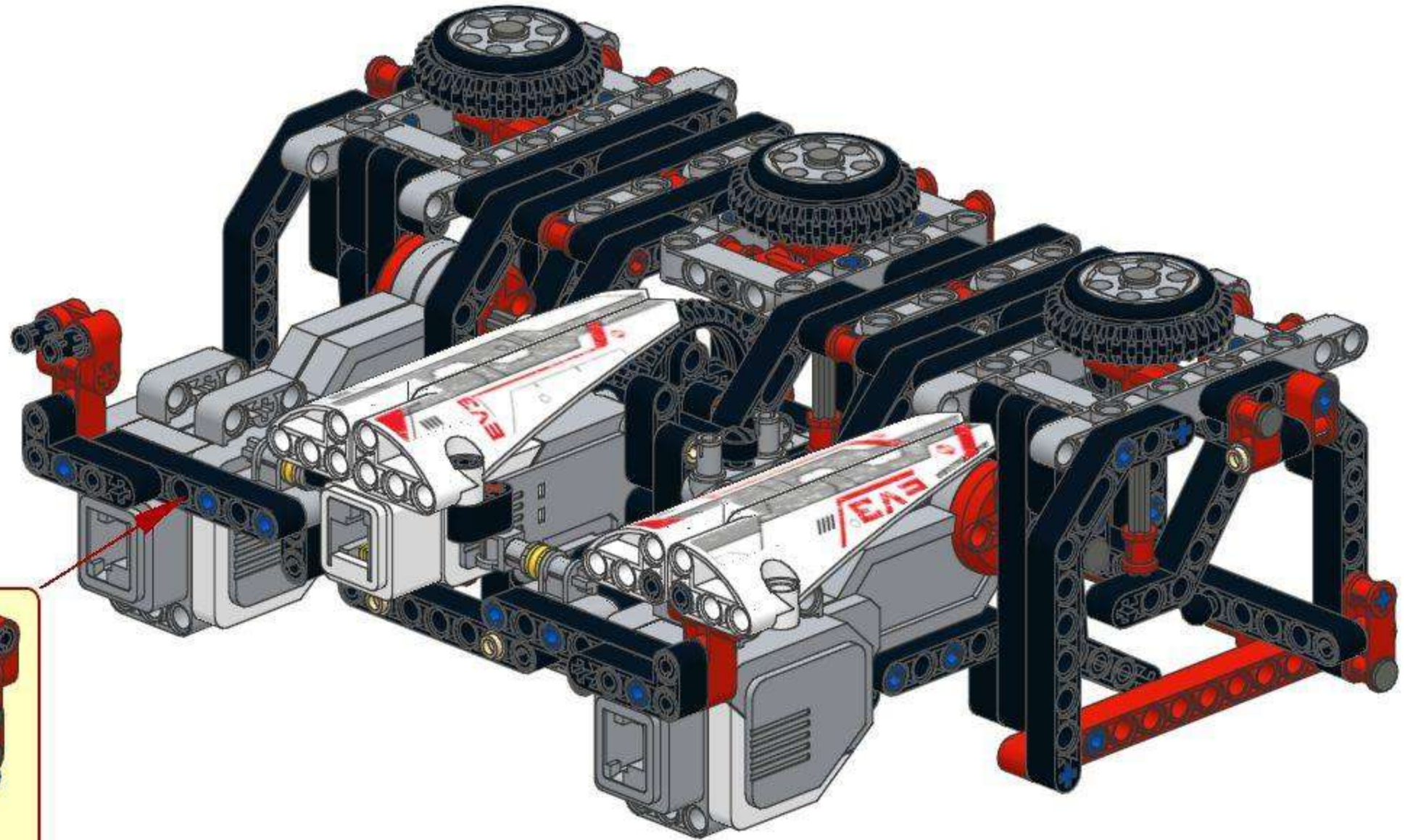
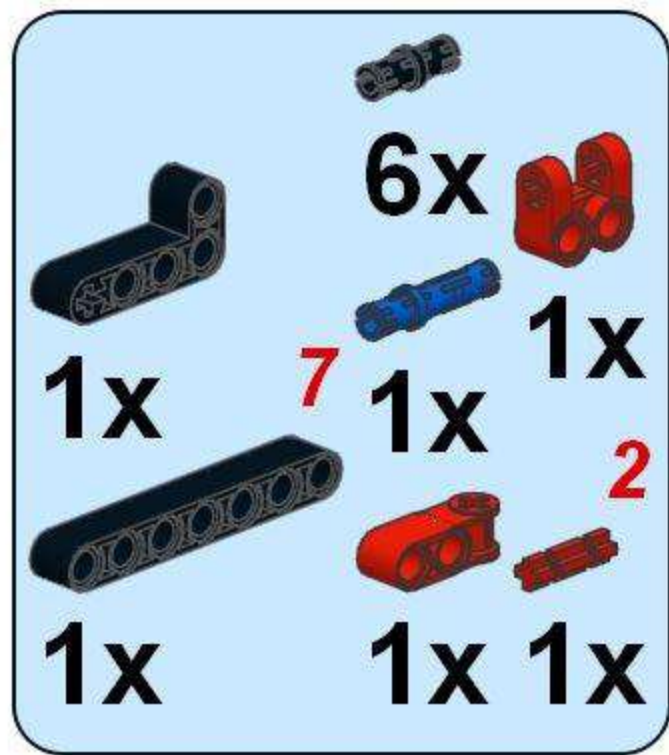
# 13



# 14

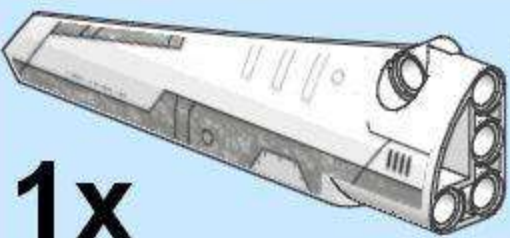


# 15

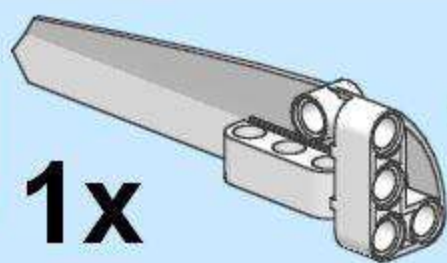


# 16

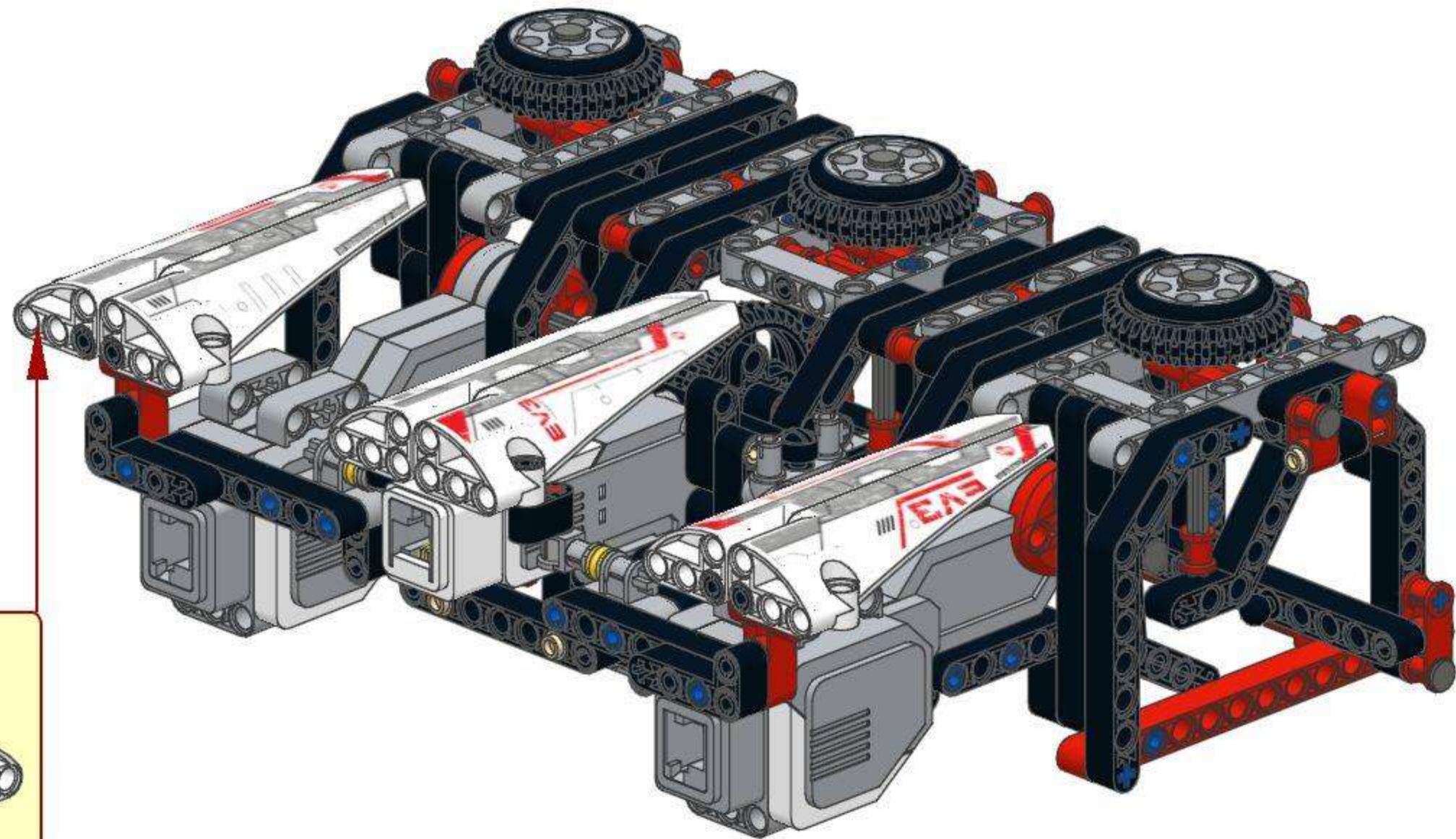
1x



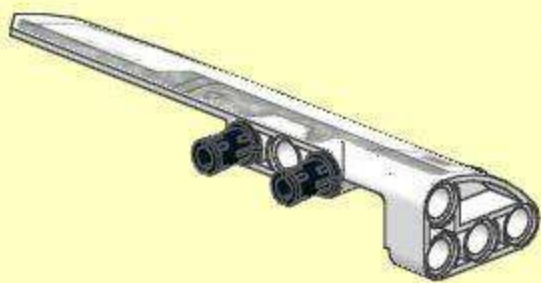
1x



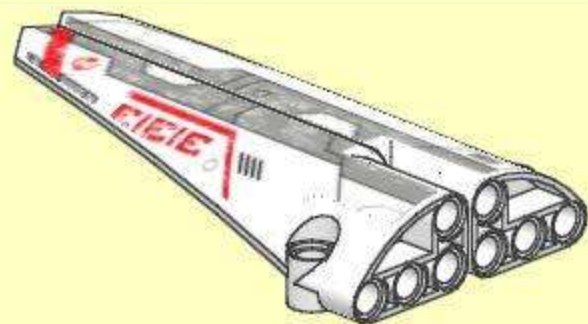
2x



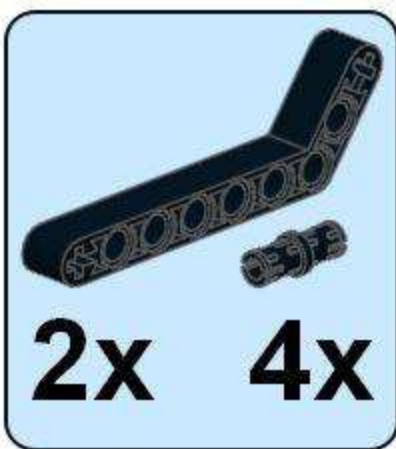
1



2

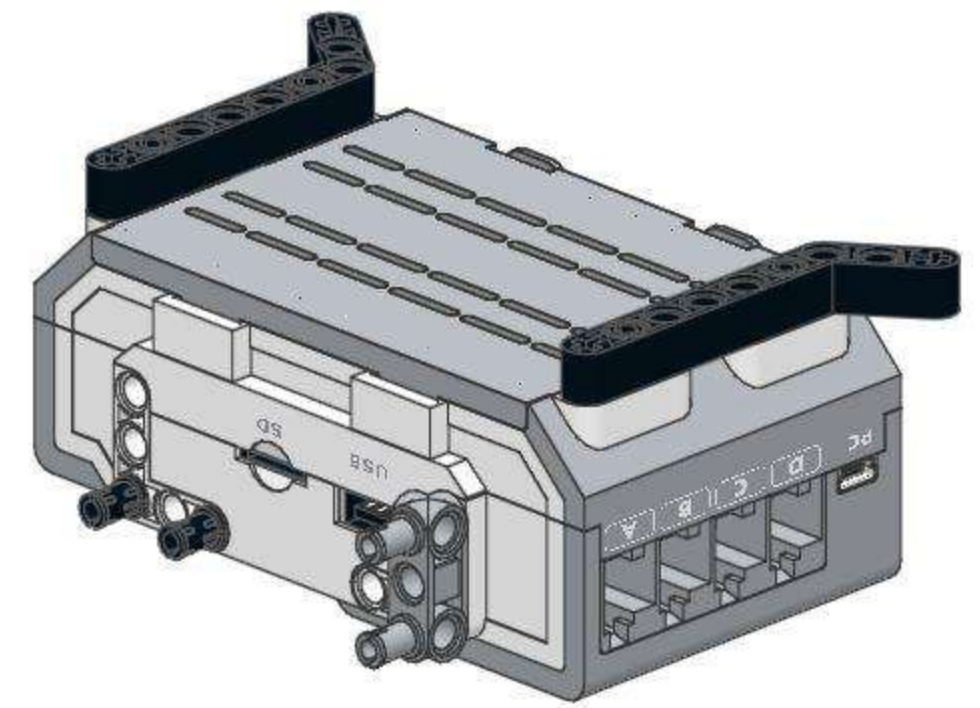
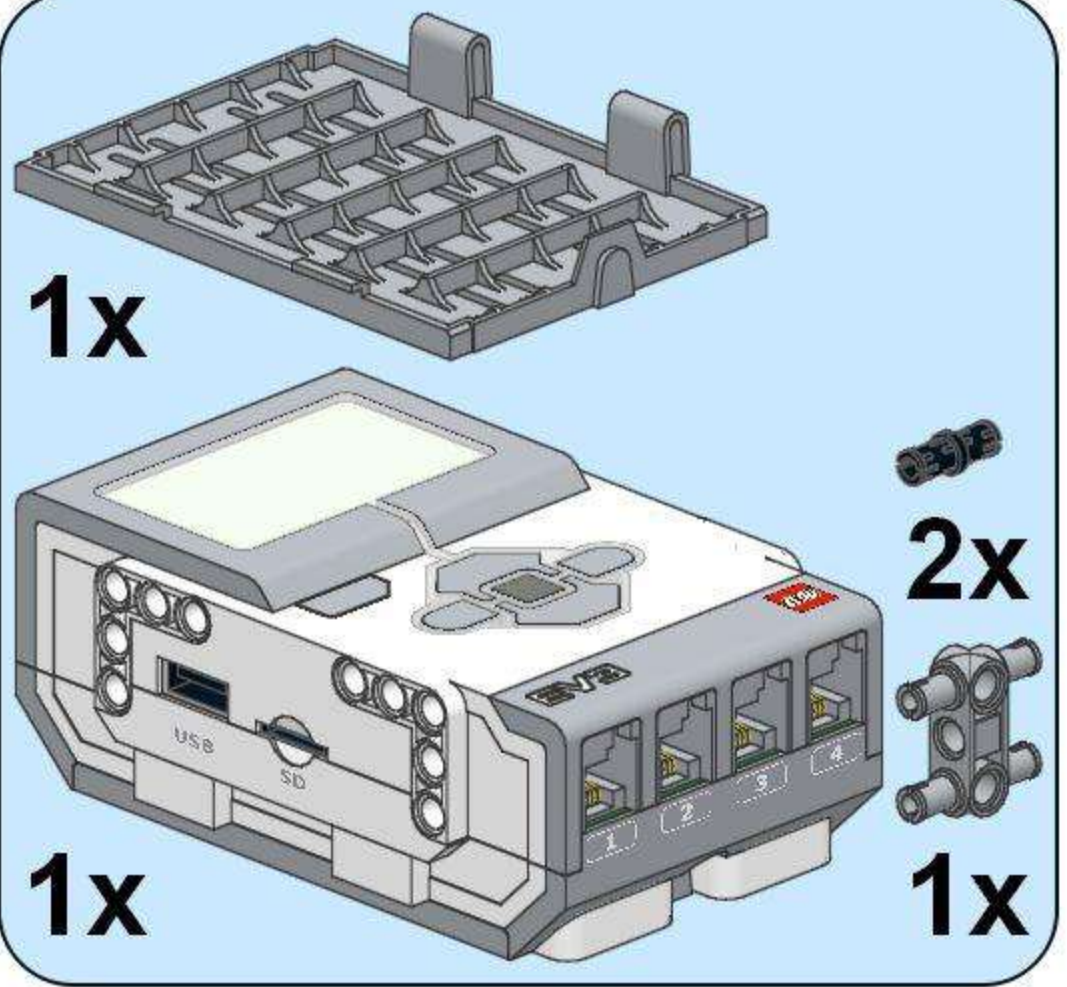


1





2

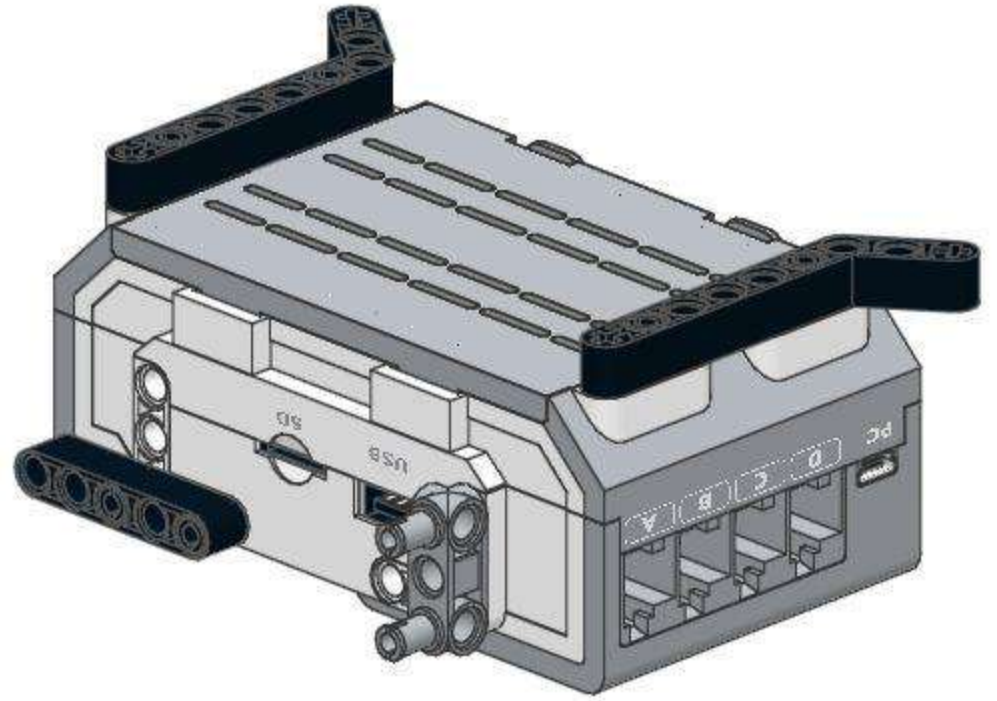


3

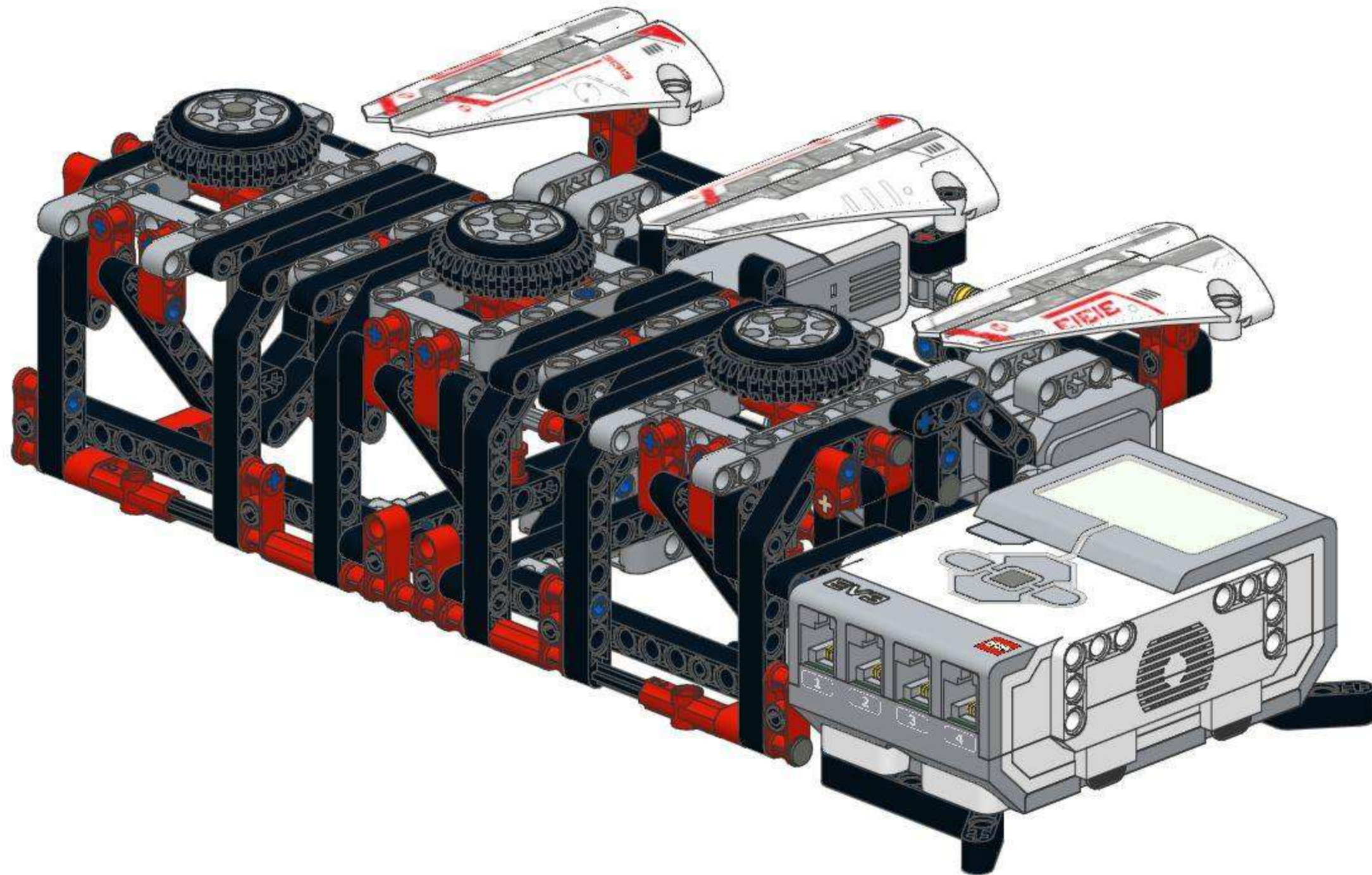
5



1x



17

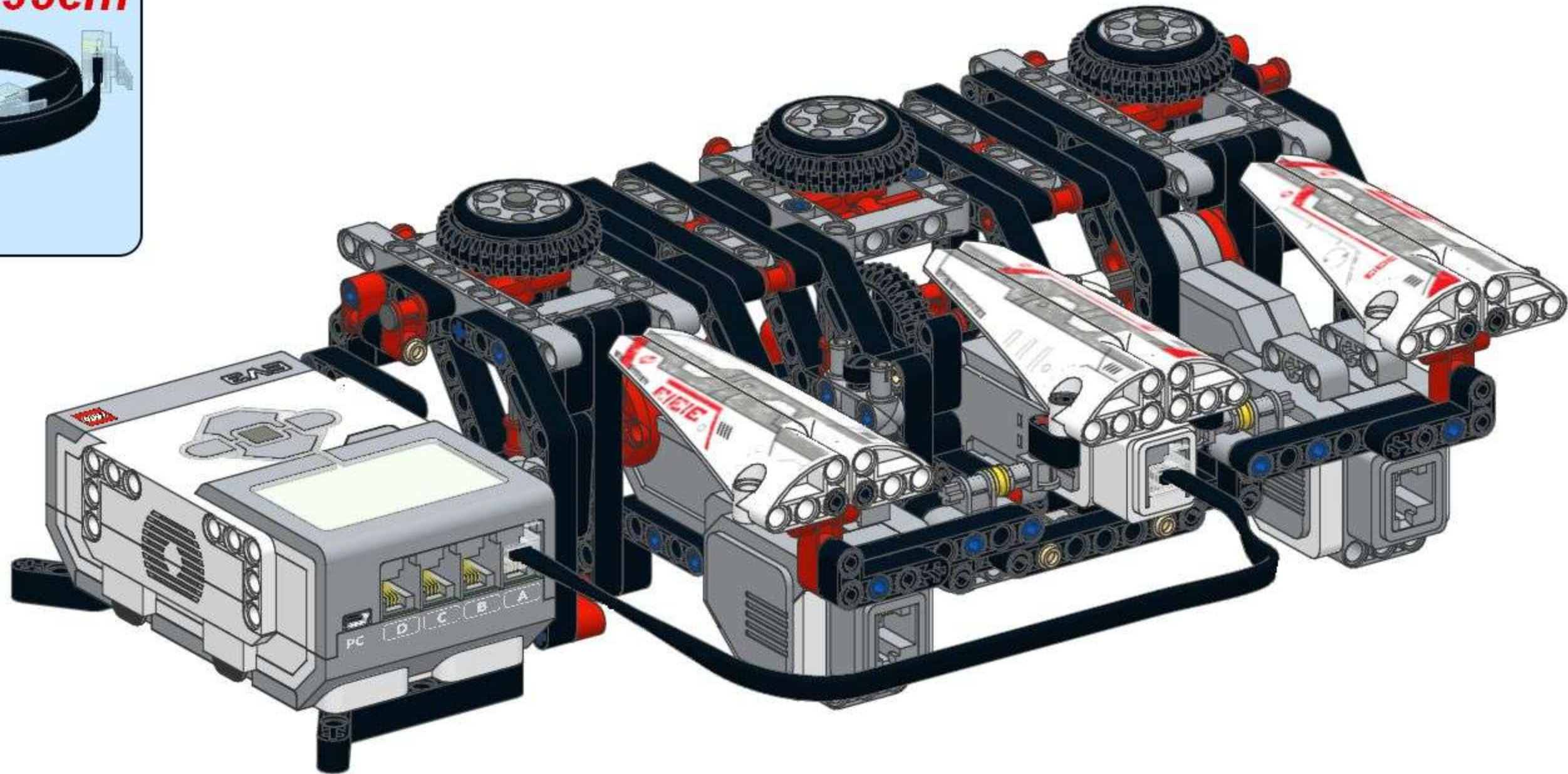


18

35cm



1x

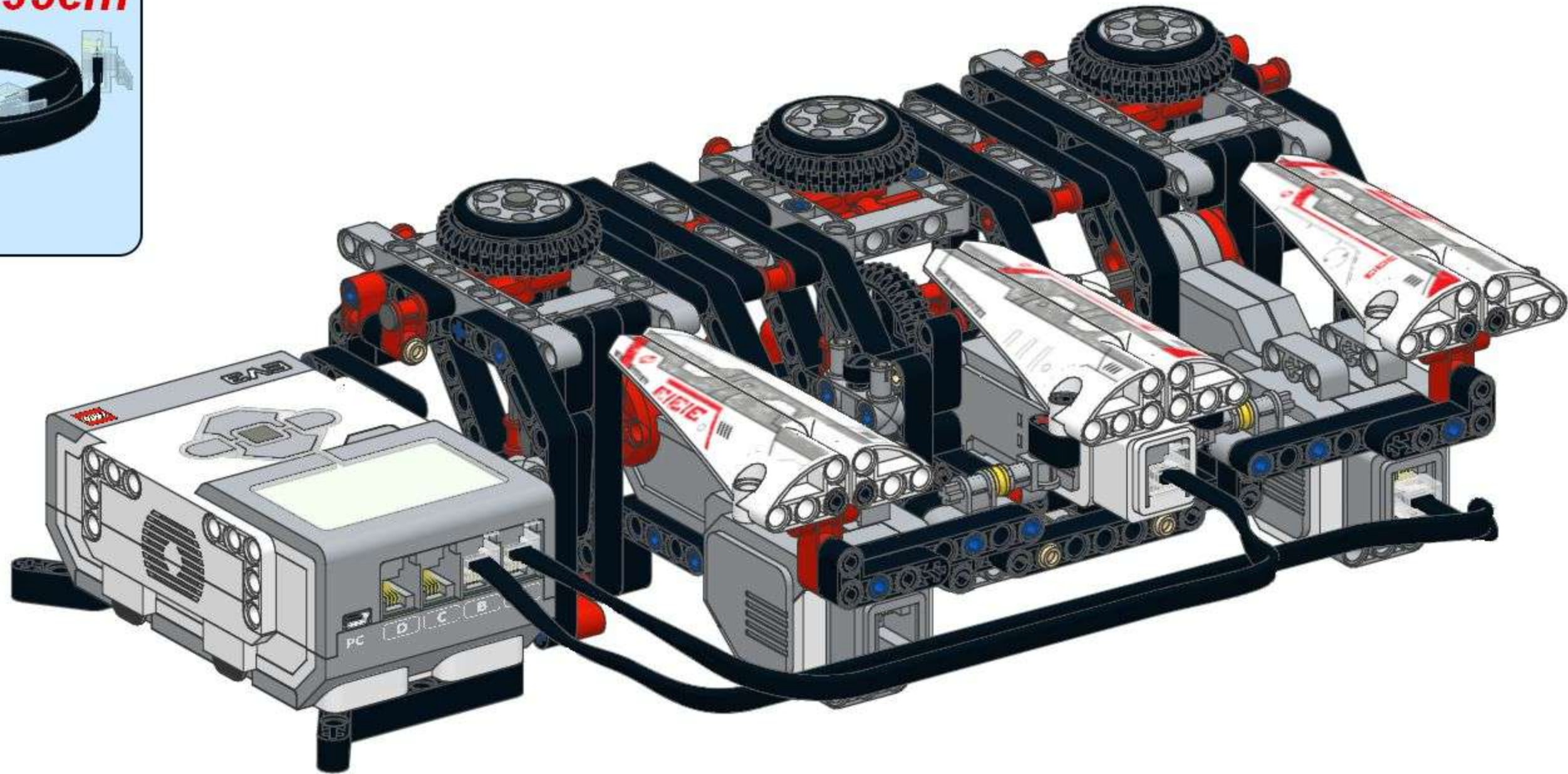


19

35cm



1x

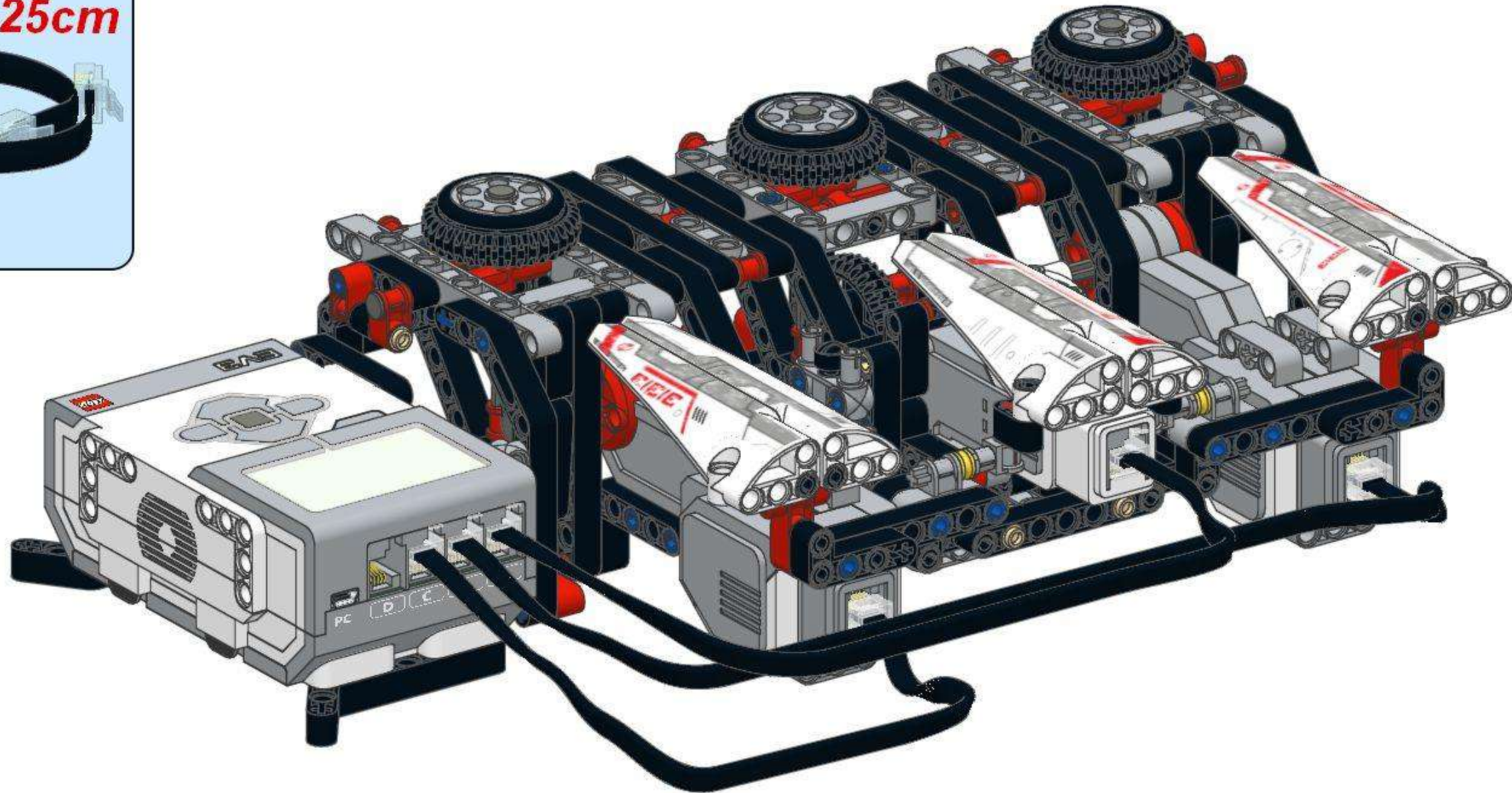


20

25cm

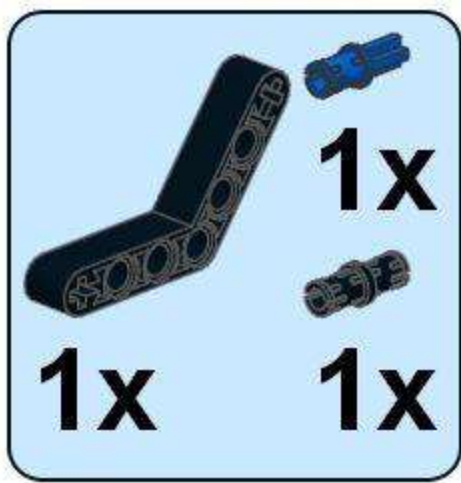


1x



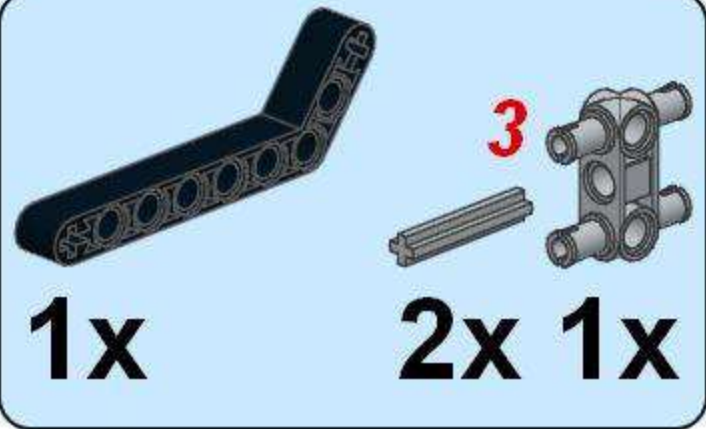


1





2



1x 2x 1x

3

This block contains a parts list for step 2. It features a large black L-shaped Technic beam (1x7 holes) on the left. To its right are two grey Technic pins (2x) and one grey Technic connector (1x). A red number '3' is positioned above the pins. Below the beam is the text '1x', and below the pins and connector is the text '2x 1x'.



3



2x



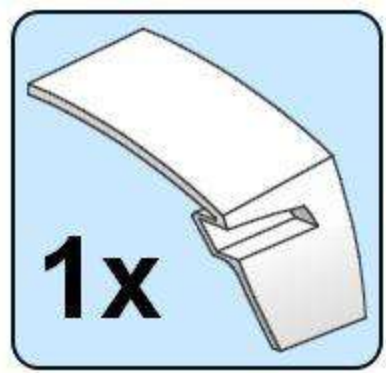
1x 5



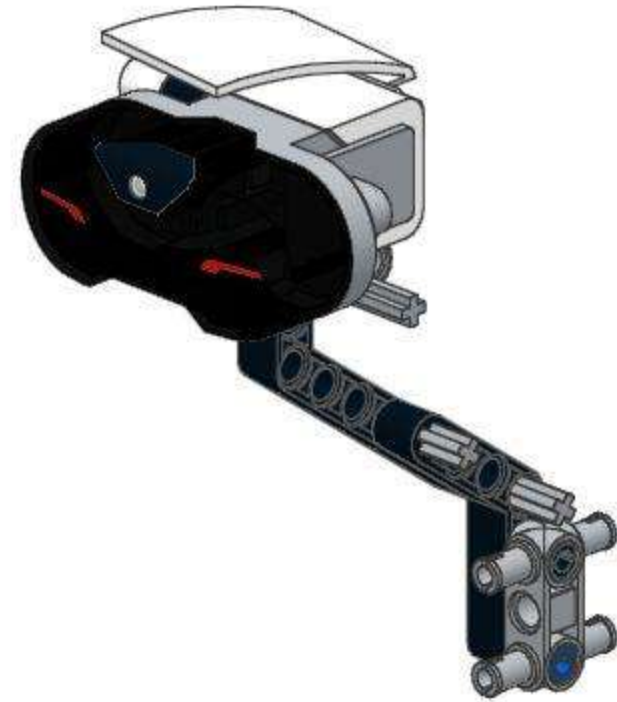
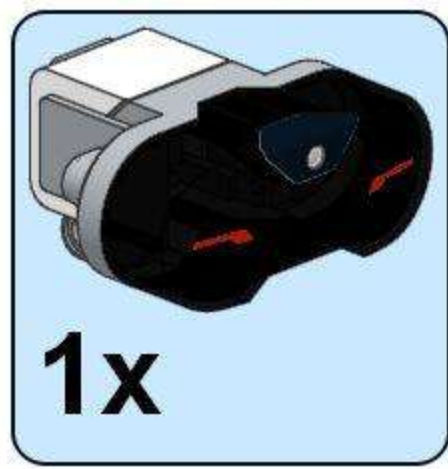
1x



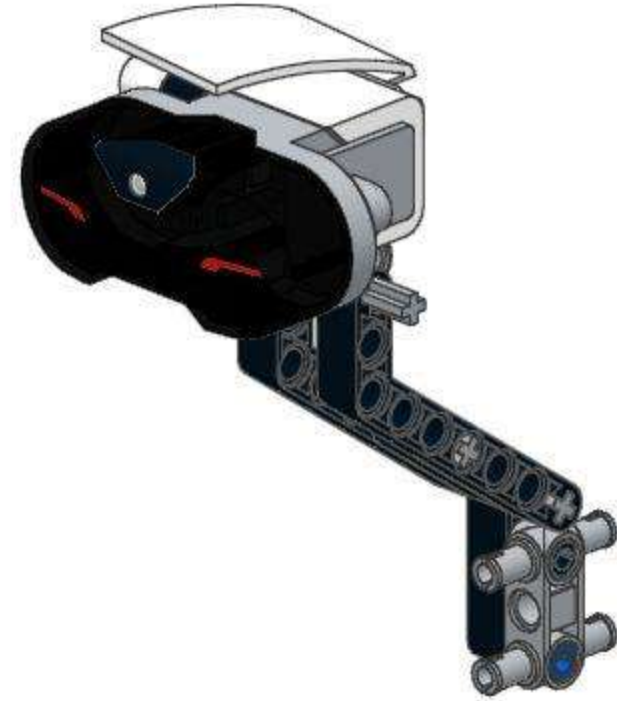
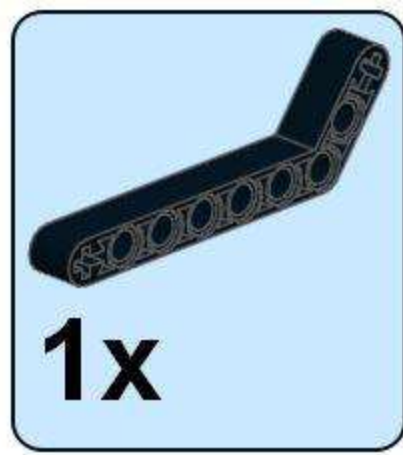
4



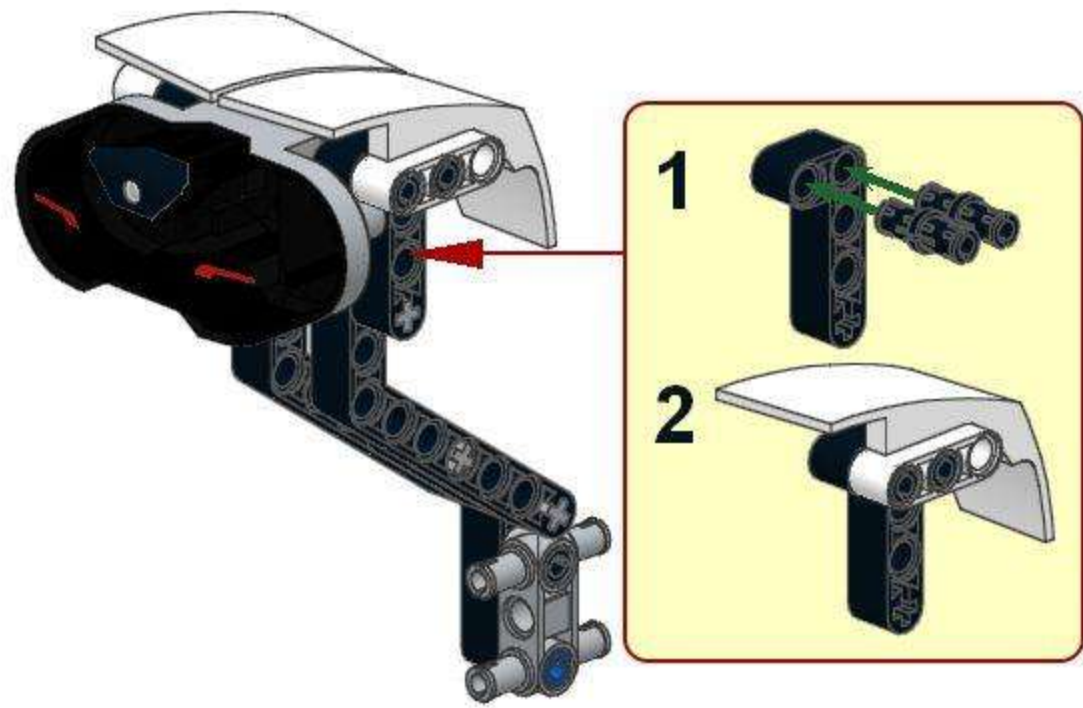
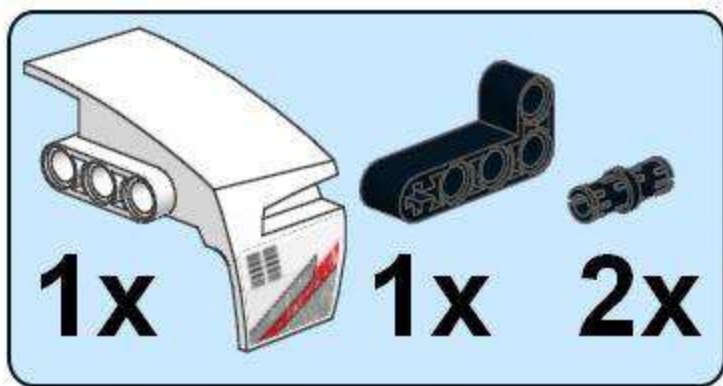
5







6



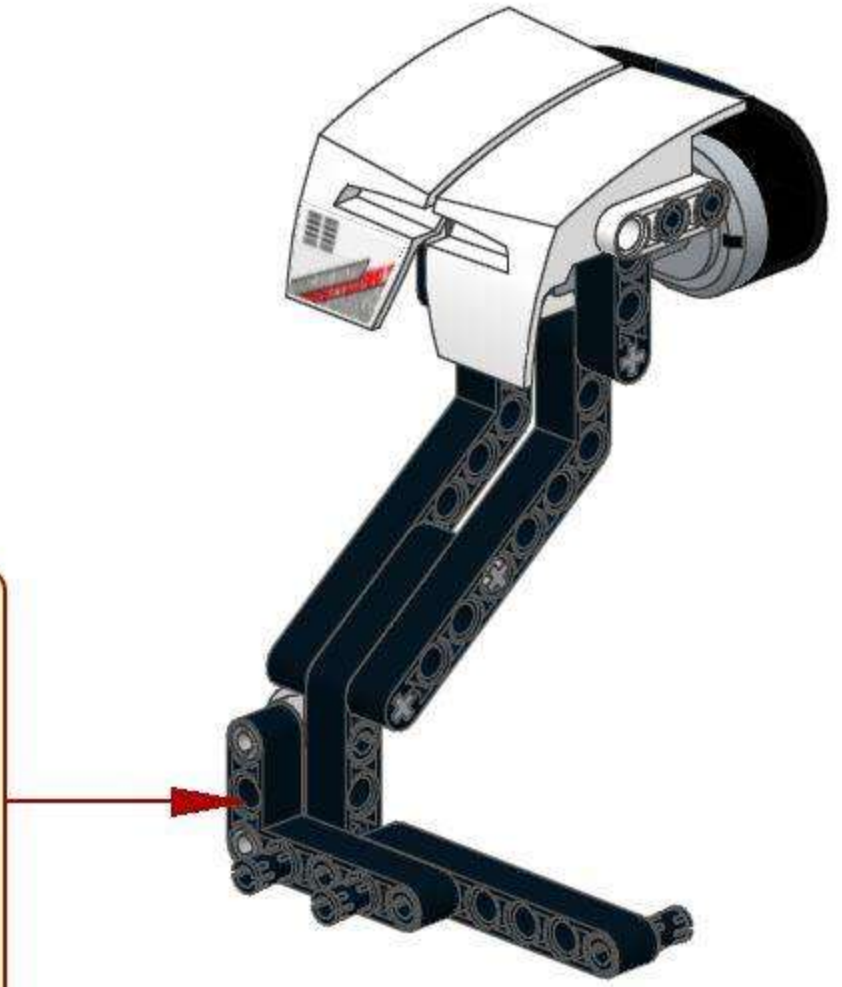
7



8

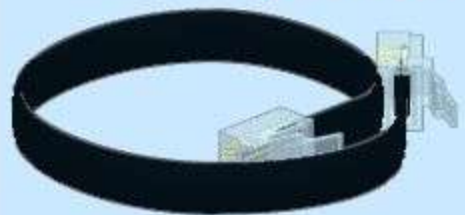
-  5x
-  1x
-  1x
-  1x

- 1 
- 2 



9

25cm

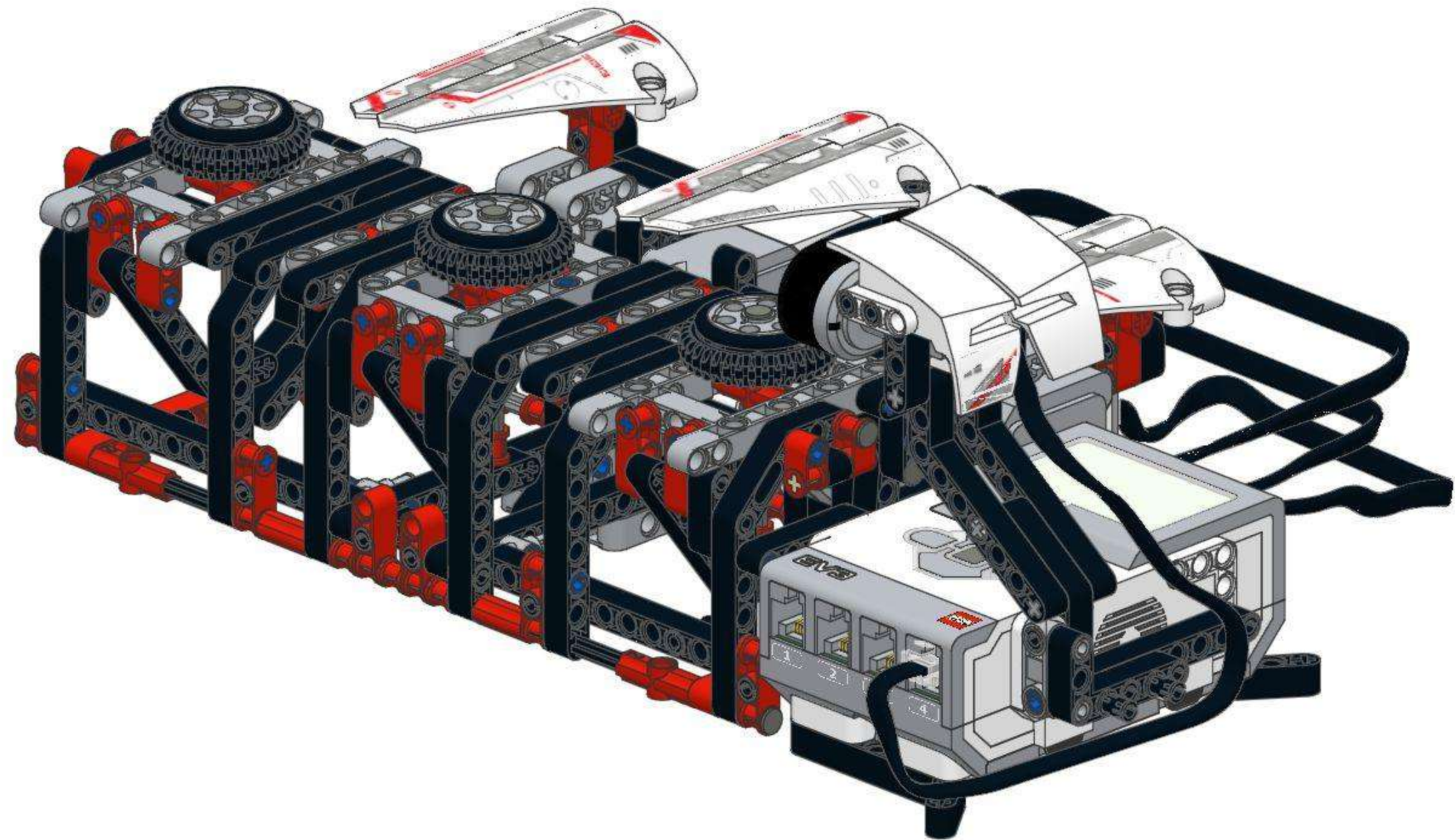


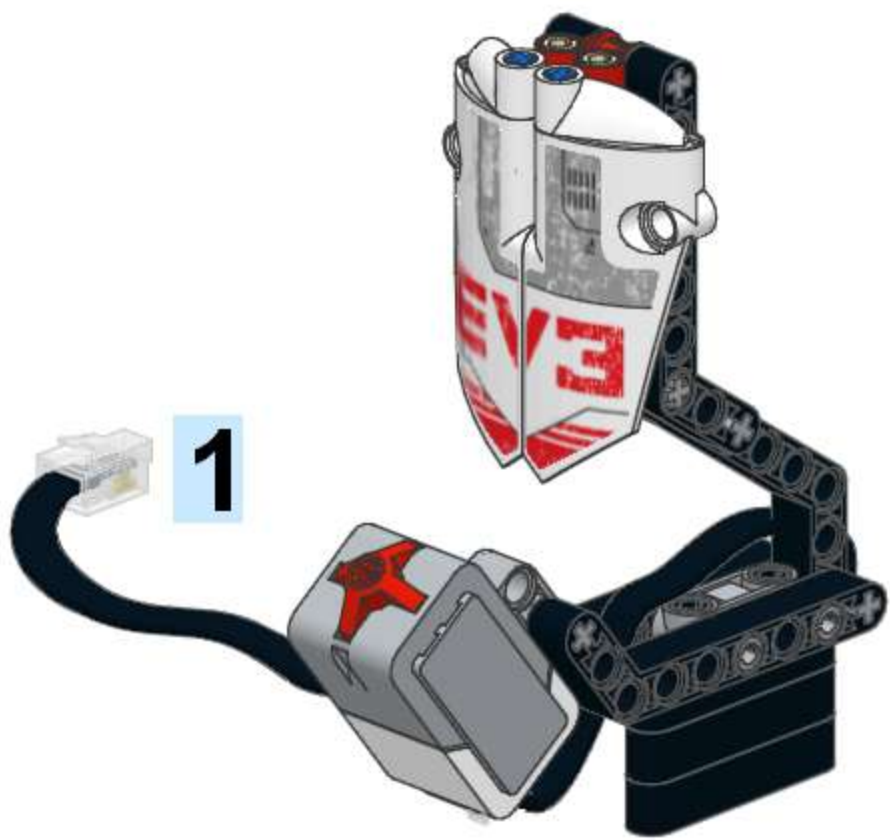
1x



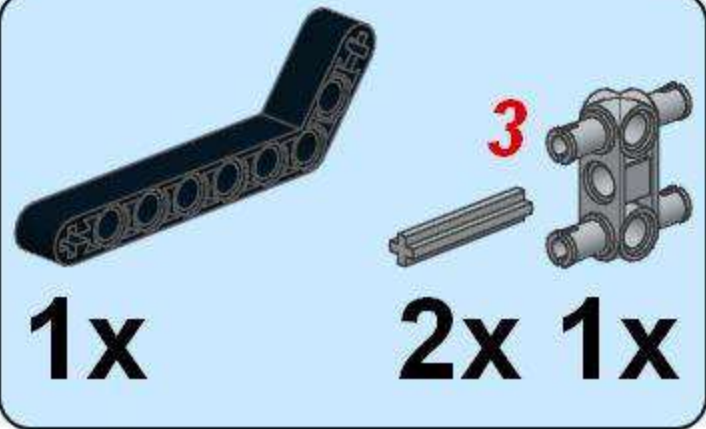


21





1



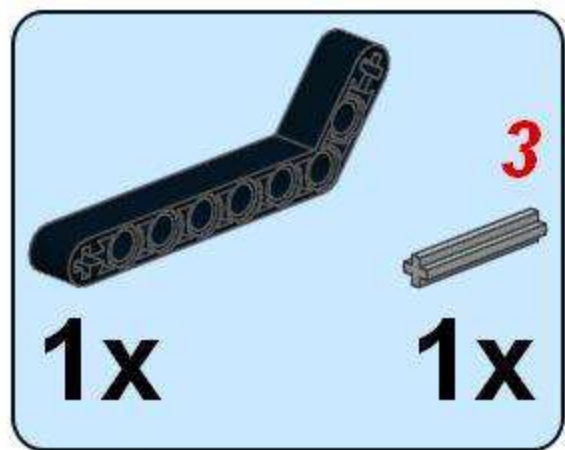
1x 2x 1x

3

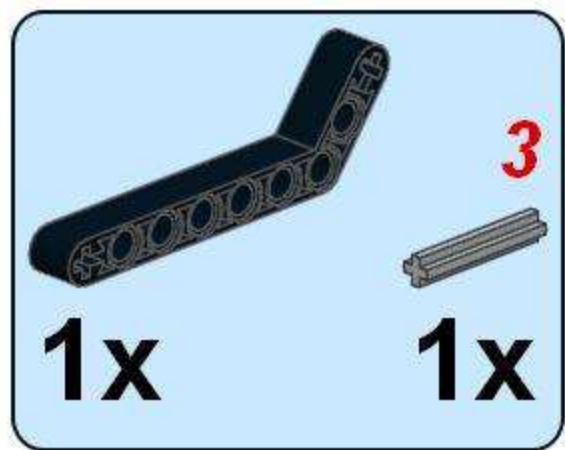
This block contains a parts list for step 1. It features a light blue background with a black border. On the left is a black L-shaped Technic beam with 5 holes on the long side and 2 on the short side, labeled '1x'. In the center is a grey Technic axle, labeled '3' in red. On the right is a grey Technic cross connector, labeled '1x'.



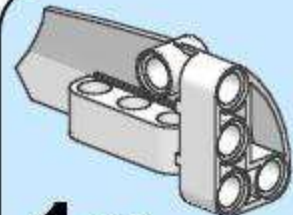







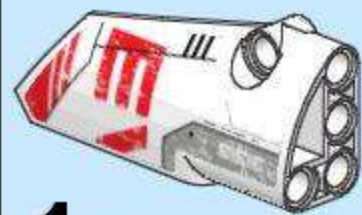



2

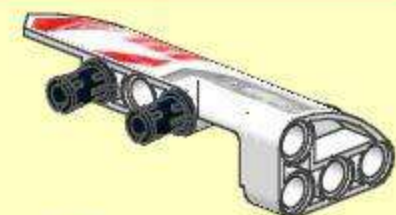


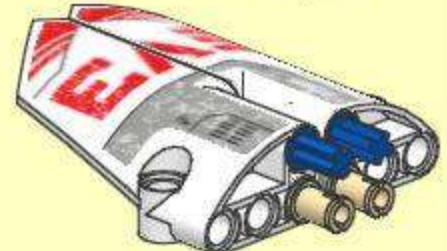
3

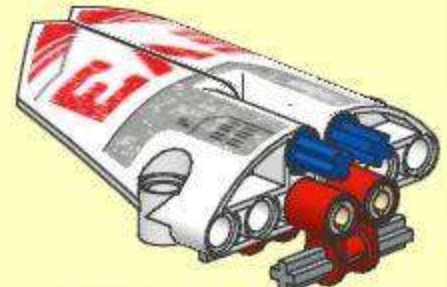


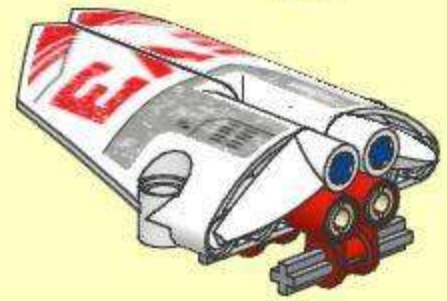
4

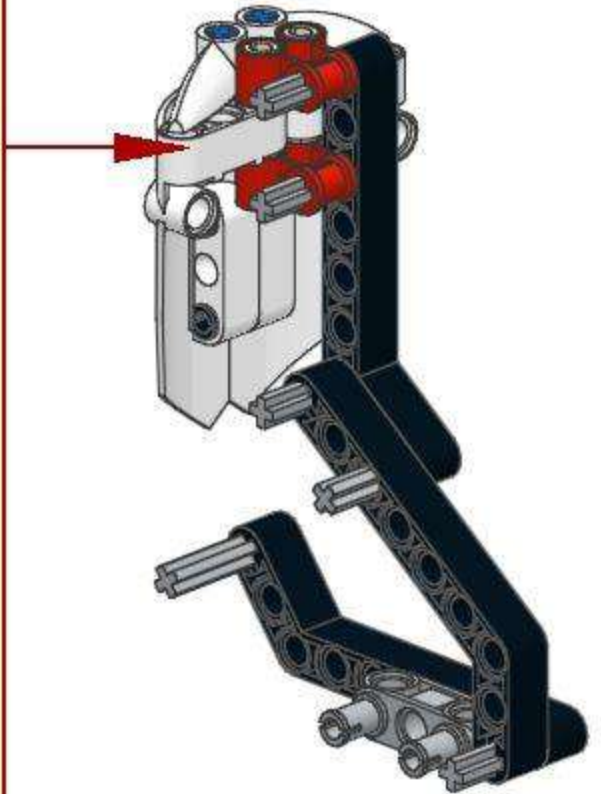
1x  2x  2x  2x  2x  2x  2x  2x  1x  2x  2x  2x 

1 

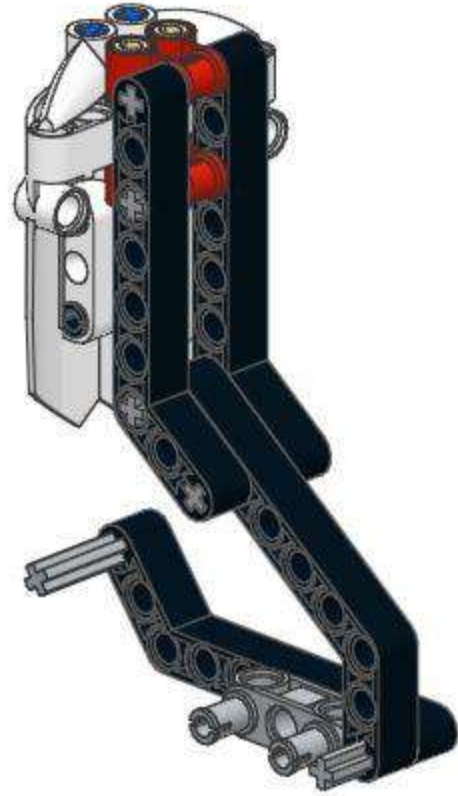
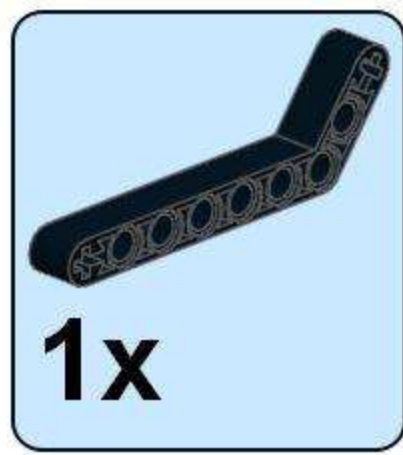
2 

3 

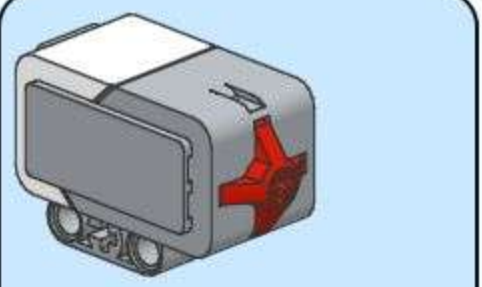
4 



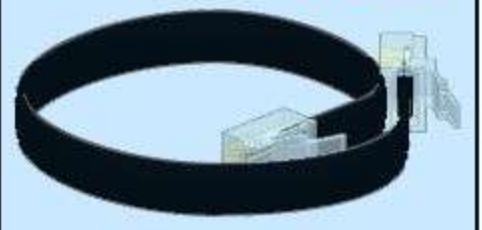
5



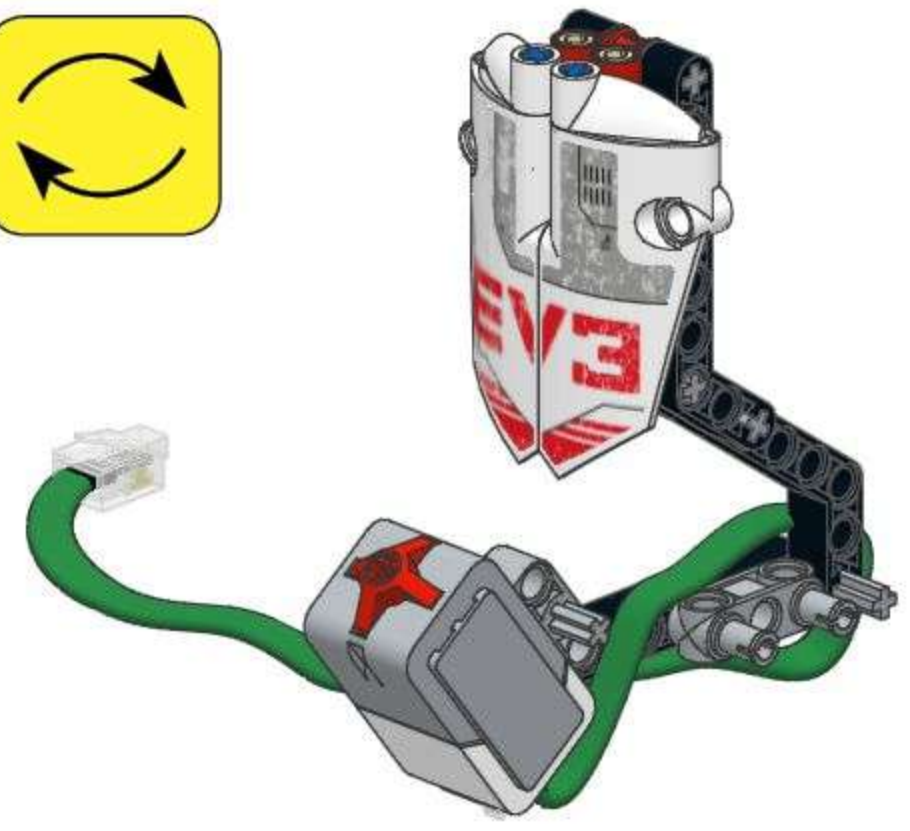
6



1x 25cm

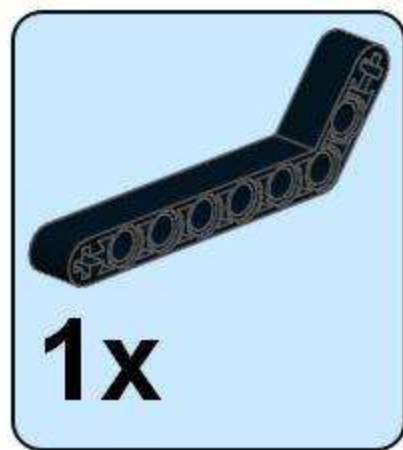


1x





7



8

-  2x
-  2x
-  5
-  3x

